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LONGMANS'
HOUSEHOLD SCIENCE READERS

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1792

BOOK I

LONGMANS, GREEN, AND CO.
91 and 93 FIFTH AVENUE
NEW YORK
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PREFACE.

THE progress toward closer union between the school and the home, and the school and society, is more and more making the common experiences of child-life subjects for study in the elementary schools.

Of such experiences those connected with the providing and preparing of food form a convenient basis for nature work and a natural center for the correlation of other subjects. A consideration of foods and the sources of food supply is, moreover, a desirable preparation for the course in cookery now a part of the curriculum in so many school systems.

This book is intended to provide reading matter to accompany the lessons in nature study and household science given in the third school year, with the hope, also, that the pictures of family life, relationships, and needs will foster in the child-readers a spirit of loving helpfulness in their homes.

Some of the lessons may appropriately follow the study of the subjects or topics of which they treat; for example, "A Talk about Bread - Seeds," "Some Common Fruits," and "The Story of Salt." Others may serve as introductions to practical lessons; for example, "What the Little Ones Say," "Living Seeds," and "The Baby Sister."

The lessons are placed in an order believed to be logical and convenient. Their arrangement in groups, however, viz.: Lessons I. to XII. on wheat and bread, XIII. to XV. on poultry, XVI. to XXI. on milk and its products, makes it possible to take up these topics in a different order when desirable.

Unusual words and those belonging to a somewhat special vocabulary are placed at the head of some of the lessons.

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HOUSEHOLD SCIENCE READERS

BOOK I

LESSON I.

THE DEAD BIRD.

1. "Why are you so sad, Ruth?" said Mrs. King to her little girl.

2. "Oh, mother, we are just going to bury Sweetie. Mary has put some soft white wool into the box that Albert made for him, and Edward has dug a hole in the ground. Will you come too?" Ruth sobbed and could say no more.

3. Mrs. King took little Arthur and went with Ruth to the garden, where the children were going to bury their

dead pet. He used to sing and to say "Sweet, sweet," but now he could never sing again.

4. Even the boys felt very sorry. They

would not cry, but Mary and Ruth could not keep back their tears.

5. Very gently birdie was laid in his grave. Tender little hands placed flowers upon him.

6. "Oh, mother, mother," cried Mary, "I wish birdie was alive again."

7. "My dear children," said their mother, "you ought not to fret so much. I know you were all very fond of Sweetie while he lived; but his life-time is over.

8. "We cannot make him live again, but if you like, you shall bury something to-day that really will live again."

9. "Can we do that?" the children asked. "Oh, yes," said Mrs. King. "I will show you how.

10. "You boys may dig up some soil, and also bring some bits of broken flower-pot, but Ruth and Mary may like to come with me into the house."

11. Mrs. King made the fire burn brightly, and left the poker in it. She then found a shallow wooden box, and burned a few holes through it with the hot poker.

12. "What are you making holes for?" asked the children. "These are drain holes," said Mrs. King; "they will keep the new burying-ground from being too wet."

LESSON II.

LIVING SEEDS.

1. "Now, boys, lay some bits of pot over the holes, and fill the box with soil, then we shall be ready to bury these little brown things," said their mother.

WHEAT SEEDS.

2. "Me see, me see; please, Mary, let me see," said little Arthur. So Mary lifted the little boy to look at the things in his mother's hand.

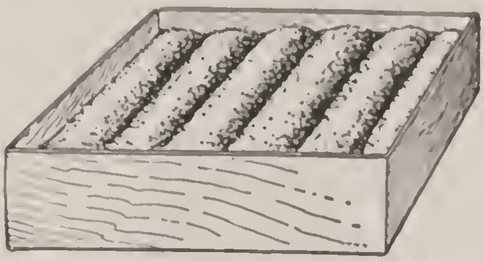
3. "Will these come again?" asked Mary. "Yes, if we bury them alive," said Mrs. King.

4. "But will it not be cruel to bury them alive?" asked Ruth.

5. "No," said her mother, "these are seeds, and seeds cannot feel pain. The life that is in seeds and trees, is not quite like the life which has been given to you, and to birds, and all other animals."

6. "The box is ready now," said Albert.

"We have only to make some deep lines like this," said Mrs. King, as she pushed her thimble through the soil. "This we will call Arthur's row; now each of you may make one."



7. When all the rows were made, the children put a few seeds along each of them.

"I tell you what," said Albert, "I call this box a little field, and the thimble a little plow."

8. "Very good," said his mother; "now use this comb as a rake or harrow, and cover the seeds so that they are really buried. Then go and help Edward pile the wood that has just been split."

9. "Who will be my little helper?" she said to the girls. "I will," "I will," they both replied.

10. "Very well," said their mother. "Ruth, take care of Arthur. Put him in his high chair by the table; he will like to see us make the biscuit for supper."

11. Mrs. King wiped the table clean, and Mary helped her to make ready all the things that she would want to use.

12. They placed on the table the smooth molding-board, the round rolling-pin, the mixing-bowl and mixing-knife. Then they brought flour, butter, baking-powder, salt, and a pitcher of cold water.

PLOWING.

LESSON III.

MAKING BISCUITS.

plow	har′-row	bis′-cuit	dough

1. Mrs. King quickly mixed these into a soft white dough, and turned it on to the board. She rolled it out and began to cut from it dainty little biscuit.

2. Three pairs of eyes were watching her, and three little heads were busy thinking.

3. Mary and Ruth were thinking how easy it was to make biscuits. Arthur was thinking about something he had had the last time he had sat there and seen biscuit made.

4. So he said, "Please, mamma, make me a little biscuit." "May I make him one?" asked Mary.

5. "Yes; and Ruth may try to make one for herself," said Mrs. King, giving each of the girls a bit of dough.

6. This pleased them, and they set to work at once. Soon Mrs. King said, "My biscuits are going into' the oven. Are yours ready?"

7. "Oh, no, mother," said Mary, "do tell me what is the matter; just look at my fingers; they are stuck together."

"Mine are stuck, too," said Ruth. "I did not think dough had such horrid stuff in it."

8. "You must not call the sticky part

horrid, Ruth," said her mother. "We could not have good biscuits, or bread, or even cake, without it. Besides, the sticky part is what helps you to grow and be strong."

9. "Well, it may be useful in my body, but I don't like it on my fingers," replied Ruth. "How did it get in?" asked Mary. "I did not see you put in anything sticky."

10. "The stickiness is not put in," said Mrs. King. "It is in the flour all the while. When the flour is dry you do not notice it. Let me take the dough. See, I put flour on my hands and on the board before I let the dough touch them. That keeps it from sticking."

11. Mary did just as her mother did, and was able to make two little round biscuits.

"I can make some next time," said Ruth.

12. "How quiet Arthur is!" said Mrs. King, after she had put the pan of biscuits into the oven.

"Yes, mother," said Mary. "He is busy trying to get some dough off of his fingers. But as fast as he takes it from one hand it sticks to the other."

BISCUITS.

LESSON IV.

WHAT THERE IS IN FLOUR.

dump′-ling	starch	glu′-ten	ker′-nels

1. Mrs. King sent the girls to wash their hands, and told Mary to bring back a bowl half full of water. While they were gone, she tied up a spoonful of flour in a piece of cheese-cloth.

2. "What a funny little dumpling! Is it going to be boiled or baked?" asked Mary.

"Neither boiled nor baked," said her mother. "It is going to be washed."

3. "Going to be washed!" cried both the girls at once.

"Yes," said Mrs. King. "I want you to take turns washing the little dumpling in this clean water."

4. By-and-by Ruth said, "The dumpling is all coming through into the water."

"Never mind, keep on washing," said Mrs. King, as she turned the pan of biscuits.

5. "Mother," said Mary, "I do not think the dumpling will *all* come out into the water. It does not seem to have gotten any smaller for a long time."

6. "If that is so," said Mrs. King, "you may leave off washing. You have caught something that will not pass through the threads of the cheese-cloth. Untie the cloth, Mary, and see what is left in it."

7. "I believe it is the sticky part of

the flour, mother. Look, Ruth! See how it sticks to the cloth!"

"Mother, which is the real flour, that white stuff in the bowl, or this in the cloth?" asked Mary.

FINDING GLUTEN.

8. Mrs. King said, "When both were together, it was flour; but now that you have taken one part away from the other, we must have a name for each part. That in the bowl is **starch**, and that which stayed in the cloth is **gluten.**"

9. "Who put them together at first, mother?" asked Mary.

"They grew together inside the seeds, or *kernels*, of wheat," said her mother.

10. "Now wash Arthur's hands, Ruth, and go to meet father, while Mary and I clear off the table and get supper. Here come the boys. They must be hungry after their work."

LESSON V.

A TALK ABOUT BREAD SEEDS.

1. At the supper-table Mr. King said, "I hear you have all been very busy this afternoon. Ruth tells me you have been burying poor Sweetie, and burying seeds, and washing a dumpling."

2. The boys began to laugh when their father said that.

3. "You need not laugh," said Ruth. "Mother showed us how to do it. The dumpling was not made for us to eat. It was made so that we could find something in flour—something that makes it feel sticky when it is wet."

4. "Did you find it?" asked Albert.

"Yes," said Mary; "and you may be glad that it is there, for it is the sticky part of flour that makes bread and biscuits good."

5. "What seeds did you plant?" asked Mr. King.

"Mother didn't tell us, but I think I know," said Albert, "and I know where there are some more. May I get them?"

"You may," said his mother.

6. Albert went to a vase, and from it took an ear of wheat. This he gave to his father.

"Oh," said Mr. King, "so you mean to grow loaves, do you? I see these are bread seeds."

7. "Now, father," said Mrs. King, "you must tell these little people what you mean, or they will be looking for more than they will see."

8. "Well, children," said Mr. King, "this is what I mean. I see you have been planting wheat seeds, and from each seed you may hope to have one or more ears full of seeds.

9. "When a great many seeds are sown, a great many ears are grown. When the seeds are ripe, they are taken from the ears, and carried to a mill to be ground into a fine white powder."

10. "Oh, I know now!" said Ruth. "The powder is flour, and flour is made into bread, and that is how

it is that wheat seeds are bread seeds."

11. "Quite right, Ruth dear. If you do as well at planting as you do at thinking, you will have a fine crop."

After supper the children went to see if their seeds had come to life again.

LESSON VI.

PLANT FOOD.

1. Many times in the next few days the box was looked at, but nothing was seen above ground. Mother was asked if she thought the seeds really would come up.

2. "Wait, my dear children," she said; "seeds take time to grow."

More than a week went by. The boys seemed to forget all about the seeds; but one day Mary and Ruth came sadly to their mother to say that nothing was growing yet.

3. "You must wait a little longer, but do not give up hope. Show me the

box; I have not seen it lately," said Mrs. King.

4. "I put it away in the cupboard," said Mary. "It did not look at all pretty, and I meant to get it out when the seeds came up."

5. "Mary," said her mother, "you have been starving the poor things. Did you forget that they were alive? Could you grow if I left off giving you food, and kept you in a dark place?"

6. "I should soon die," said Mary; "besides, I hate to be in the dark; but I did not think it would matter to the seeds."

7. "You told us to put them down in the soil, mother," said Ruth. "Will that kill them?"

8. "No, my child," said Mrs. King, "they get food from the earth.

"But besides food, plants and seeds need water and air and sunlight. Let us take the box just as it is, and place it in the garden. You can water the seeds there, when the rain does not do it for you.

9. "Then perhaps the seeds will sing this song:

SONG OF THE BABY SEED.

10. "Little brown brother, oh, little brown brother,
Are you awake in the dark?
Here we lie cosily close to each other,
A little bird sings to us. Hark!
'Waken,' the birdie says, 'waken and dress you,
Put on your green coats and gay,
Blue sky will shine on you, sunshine caress you,
Waken, 'tis morning, 'tis May.'"

LESSON VII.

GRASS, BIG AND LITTLE.

1. At last the seed in the box sent up shoots. At the same time the ground in the garden began to look quite green. "Mother," said Ruth one day, "I think you must have been planting wheat seeds everywhere. Look how they are coming up!"

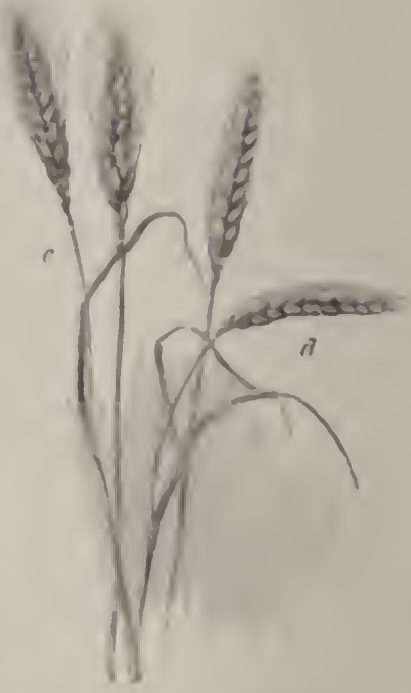
2. "Why, that is only grass," said Edward.

"No wonder Ruth thinks the grass is wheat," said Mrs. King, "wheat and grass look so much alike at first.

3. "Wheat is a kind of grass. It grows tall and bears big seeds, which we find useful for our food. The little grass is good food for cattle."

a Stalk of wheat.

b. Stalk of grass.



HEADS OF WHEAT.

c. Bearded. *d.* Unbearded.

"Well," said Edward, "I did not think wheat was grass!"

4. "See for yourselves," said Mrs. King. "Dig up a wheat plant and a grass plant. Look at every part. Both

plants have the same thread-like roots; both have smooth, hollow-jointed stems; and both have narrow, pointed leaves."

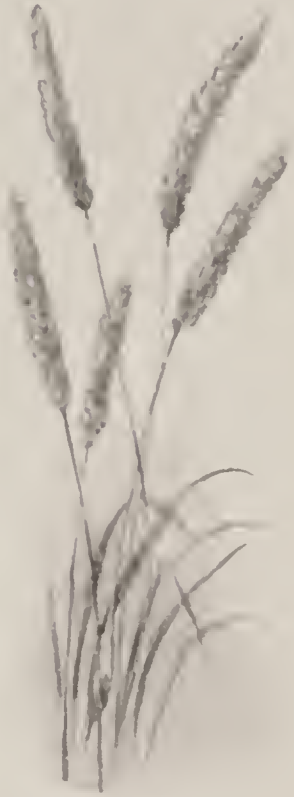
5. "Where are the heads, mother?" asked Mary.

"Legs are up first, heads are underground," said Albert, with a laugh, in which all joined.

6. Then Mrs. King told the children that the head or ear would be seen when the plant was older. It would come from within folds of the topmost leaf.

7. Tiny green flowers would come at the point of each seed-case; but the flowers would not stay long.

8. She told them, too, that at first the seeds would be soft and milky, and dressed in pale green coats; but after the hot summer sun had been on them, the milky part would get hard and wear a golden-brown coat.


HEADS OF GRASS—TIMOTHY.

9. "So you see," said Mrs. King, "you have still some time to wait and watch for the heads of your grain.

"It is—

10. 'August brings the sheaves of grain,
Harvest-gold on hill and plain.'"

LESSON VIII.

THE JOURNEY.

1. One day in August Mrs. King's family of boys and girls were in high glee. Dancing here, dancing there, calling to each other, "Are you ready?" or, "Do hurry;" or, "Come and help me;" or, "I'm not quite ready."

2. What did it all mean? Why all this bustle? I will tell you.

3. The children were going off into the country, with their mother, to visit Grandma Hunt. Such talking, such laughing, such glad shouts were heard when the engine puffed away with them.

4. Soon the town was left behind. As the train sped on, new sights and sounds

By courtesy of the Lehigh Valley Railroad.

met them. One called out, "Look there! Do you see those rabbits?"

5. Another called, "Look there! What a pretty stream! Here's a big house and garden! What a lot of cows and sheep! Here's a horse and its colt! See the little one race off and kick up its heels!"

6. Everything seemed to be flying past. Nothing stayed long enough to be looked at. It was hard to believe that the trees and fences were not running away as fast as they could.

7. At last the train stopped at Ashton. Here Mrs. King got out with Arthur. Mary took care of him while Ruth was lifted down.

8. Up came the conductor, saying, "Take care, boys; not too fast." Then he shouted, "All aboard!" waved his arm, and the train steamed away.

9. The children watched it out of sight. Then they set off towards grandma's house.

LESSON IX.

THE WHEAT-FIELD.

fur′-rows Da-ko′-tas Sep-tem′-ber now′-a-days

1. On the way from the station to the house, Mrs. King and the children crossed a field.

"Hurrah! Hurrah!" shouted the boys. "Here's a wheat-field."

2. "This wheat is taller than ours," said Mary. "That is because it is in a real field in the country, where it is sure to grow better than in our box," said her mother.

3. "It is about a month older, too," said Edward, "for ours was put into the ground in May, but a verse I know says:

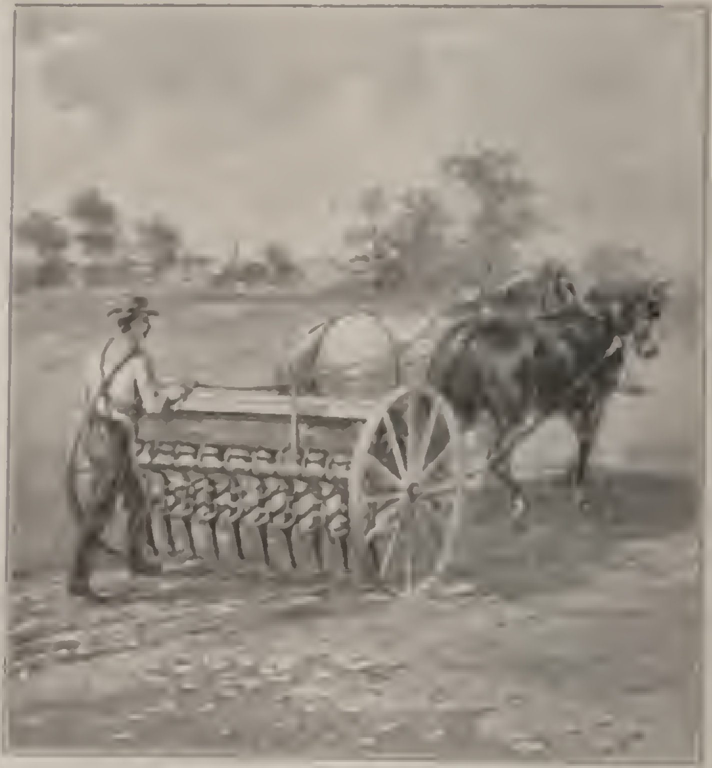
4. "'In April, when the violets
Put forth their blossoms sweet,
The cheery farmer soweth
To right and left his wheat.'"

5. "Only he does not scatter it from right to left nowadays," said Albert.

"He uses a drill, which drops the seeds into furrows, and covers them up with earth, just as we did."

6. "The verse tells the right time for sowing the wheat in the Dakotas and some other northern states," said Mrs. King, "but where the winters are not so cold, wheat is sown in September, and stays green under the snow all winter long."

SOWING SEED BY HAND.



PLANTING WHEAT WITH A DRILL.

7. "Why is it sown in the fall, mother?" the children asked; and she told them

that wheat started the year before it was reaped gave a larger crop than wheat sown and reaped in the same year.

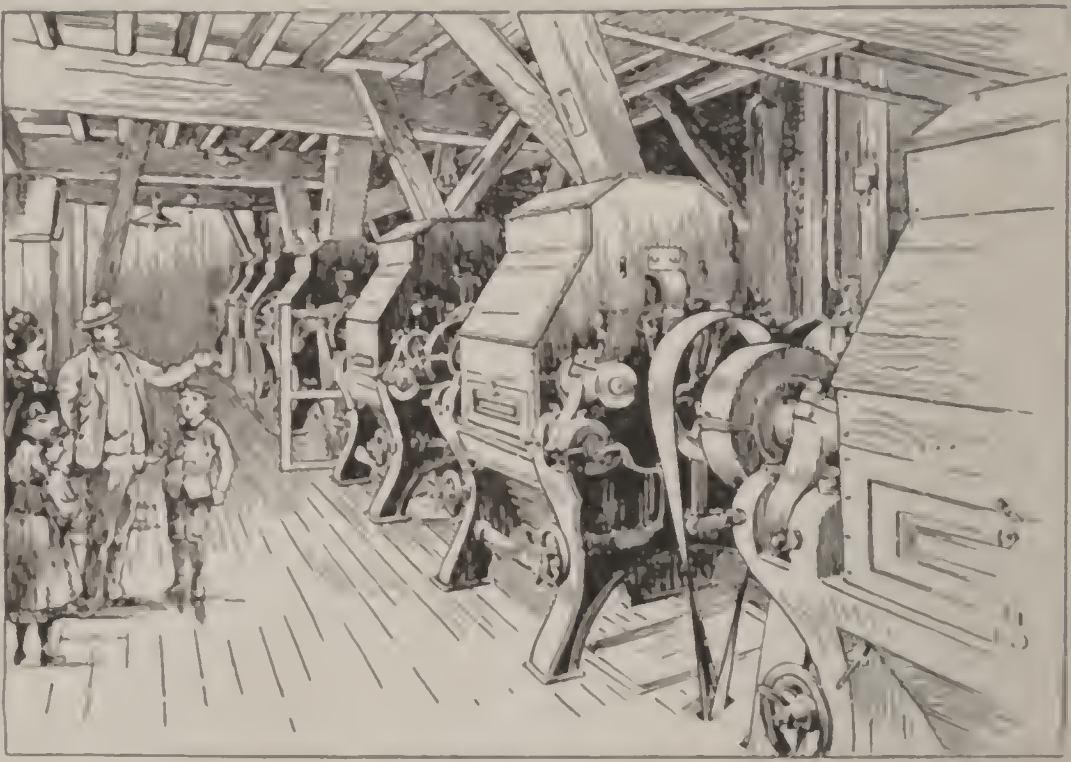
8. "Oh, what lovely flowers!" cried Ruth. She darted away to pick some; but her mother's voice stopped her. "Ruth, we must not do as the farmer of Gotham did."

9. "What did he do?" they all wanted to know.

"He wanted to see how his grain was growing, but was afraid to tread on it; so he paid two men to carry him over the field."

10. "Well, I call that a silly thing to do," said Albert; "twice the harm was done."

11. "Just so," said his mother; "but we have six pairs of feet, and should do much more harm if we trod upon the wheat. Let us keep to the path; then we shall not hurt one wheat plant."



INSIDE A FLOUR-MILL.

LESSON X.

THE FLOUR-MILL.

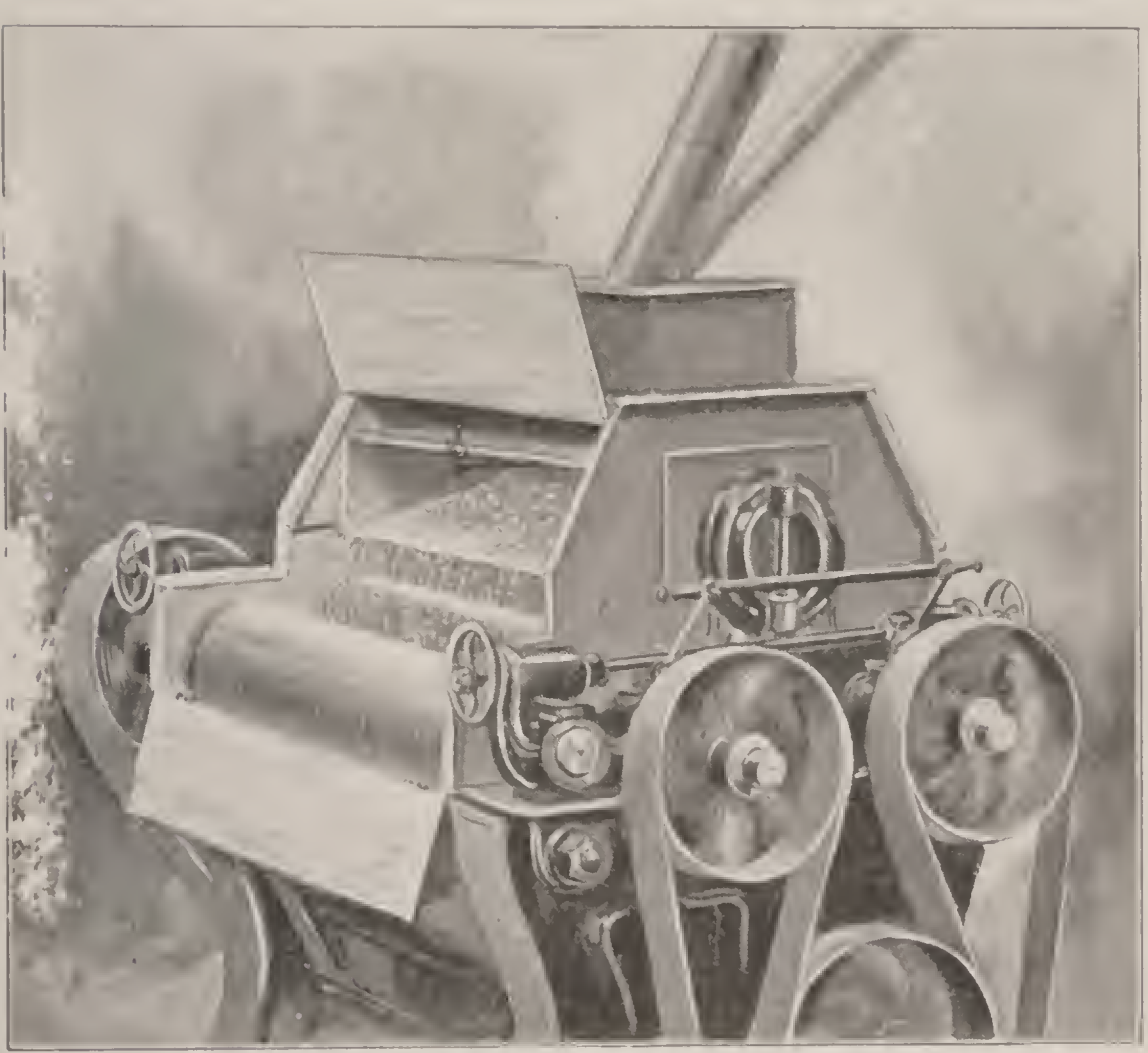
grooved mill′-stones steam′-en′-gine ma-chine′

1. Out in the lane they met Mr. White, the miller. He spoke to them kindly, and said, "I think the children want some country roses, don't they?"

2. Then Mary said to him, "Please, Mr. White, may we see you grind some wheat?" Mrs. King told the miller that the children had planted wheat and watched it grow.

3. "Ho! ho!" said he, with a merry look; "how many sacks full will you have for me to grind?"

"There will not be any at all to send to you, sir," said Albert; "but we should like to see wheat seeds made into flour."

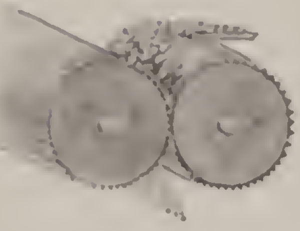


MILLING-MACHINE GRINDING WHEAT.

4. Mr. White took them all into his mill, and showed them big bins full of grains of wheat, all ready to have their

shiny brown bodies broken and crushed, that we may have flour.

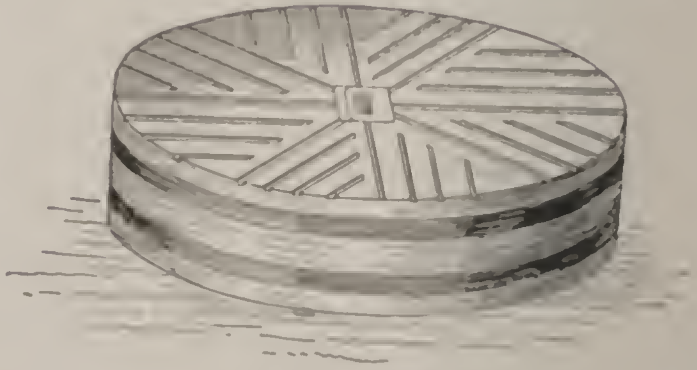
5. In another part of the mill they saw the wheat passing between rollers that turned slowly. The first pair of rollers crushed the grains flat. The other rollers ground it finer and finer.



WHEAT FALLING BETWEEN THE ROLLERS.

6. After coming from one pair of rollers, the wheat was sifted before it went to the next pair. The coarse parts were saved for cattle food. The fine, powdery part made flour.

7. Mr. White told the children that some of the rollers were grooved and some smooth. Edward asked what made the rollers turn.



A MILLSTONE.

8. "My mill now goes by steam," said Mr. White. "It used to be run by water-power. A stream of water was made to turn a great

wheel, and that turned two round millstones like the one you see lying in the corner.

9. "The grain was poured through the hole in the upper stone, and was ground between that and the lower one. You could hardly find a flour-mill run by water-power now. With steam-power and rollers we can make more and better flour than we could in the old way."

A WATER-MILL.

10. Mrs. King and the children thanked Mr. White for his kindness, and went on their way. As they passed the old part of the mill they saw the water-wheel hanging idle.

11. Through a window they caught sight of whirling wheels and belts in the engine-room.

12. "One steam-engine is better than ten old water-wheels," said Albert.

"But the water-wheel is ever so much prettier," said Mary.

13. When they reached the house they first kissed grandma. Then they all tried at once to tell her where they had been and what they had seen.

LESSON XI.

THE BAKERY.'

PART 1.

knead'-ing trough luke'-warm yeast

1. In the middle of their tale, Uncle John came in. "Oh, how hot you look, uncle!" said Tom.

"You would look hot too, if you had come from the oven, as I have," said Uncle John, with a laugh.

2. Mr. Hunt was a baker; so while the children were in the country, they had a good chance to see flour made into bread, cakes, and buns.

3. The boys liked to eat the cakes better than to see them made; but Mary took pleasure in seeing, over and over again, all that has to be done in order that we may have our daily bread.

4. She noticed how very few things are needed for making bread—only flour, salt, yeast, and water; but she also noticed how much work and care are needed to keep the bread from being heavy or sour.

5. To Mary the bakery was a wonderful place. She liked to see her uncle mix and knead the dough in the kneading-trough.

6. She learned that the mixing-water should be lukewarm, and that one pound of yeast and two pounds of salt should be added to each barrel of flour.

7. She was not strong enough to knead the dough, but she saw how it was done. She knew that when it was set to rise, it would be about two hours before it would be light enough to be kneaded again and shaped into loaves.

8. Uncle John told her that the yeast filled the dough full of bubbles of gas. This made it rise.

A JUG OF LIQUID YEAST.

A YEAST-CAKE.

"Just as the gas in a toy balloon makes it go up if you let go of the string?" asked Mary.

9. "Something like that," said Uncle John. "When people use home-made yeast, they have to keep it in a jug with the cork tied down. If the string should

get loose, the gas would burst the cork out, and the yeast would fly all over the room."

10. "And the bubbles in the dough would burst, too," said Mary, "if it were not for the sticky gluten that holds them in. Mother told us that a long time ago."

LESSON XII.

THE BAKERY.

PART 2.

French **Vi-en′-na** **crust′-y** **fin′-ger-rolls′**

1. It would be hard to tell which of the children wondered the most, when they saw the great brick oven with its side fire sending up hot flames.

2. "Uncle, will the bread taste of smoke?" asked Mary, the first time she saw it.

3. "Oh, no, Mary," he said, "the smoke is drawn off through that opening in the corner of the oven. When the oven is hot enough, I shall put an iron screen around the fire. Then I shall brush the oven clean and put in the loaves."

4. One day Mary's joy was very great, for her uncle said, "Come with me, my dear, to make the bread;" and he let her do more than watch; he gave her some dough for herself.

PUTTING LOAVES IN THE OVEN.

5. Mary kept her fingers quite dry, and made some well-shaped loaves.

6. She made a French roll apiece for Albert and Edward, a little brick loaf for mother, a Vienna roll for Ruth, and some tiny crusty finger-rolls for Arthur.

7. Though it was vacation time, these five happy children learned something every day, by keeping their eyes and ears open.

LOAVES AND ROLLS.

LESSON XIII.

WHAT THE CHICKEN WANTED TO KNOW.

1. "Cheep, cheep, cheep." The sound came from a little yellow ball of feathers. On the top of it was a little yellow head, with a pretty white beak and a pair of black eyes.

2. "Cheep, cheep, cheep," it said. "Where am I now?

"At any rate, I am better off than I was. I can breathe, and that is more than I could do in the dark, hot place I have just left.

3. "As to legs, I did not know I had any, until I tried to get through a hole that I made in the wall.

4. "Oh dear, what work I had to make that hole! I really thought I should die; but at last the wall cracked. Then the rest was easy.

JUST OUT.

5. "Cheep, cheep, cheep. Can anybody tell me where I am? and why I am here at all?"

6. "Cluck, cluck, cluck."

"Hark! What was that? I seem to know the voice, yet I have not heard it before."

7. "Cluck, cluck, cluck," came the call again.

"I'm coming," said little Cheep-Cheep, and he began to totter on his pinky-white legs towards the clucking sound, till he came tumbling up against something big and soft and warm.

8. "Did you call?" said the little one. "Of course I did," said the big one. "Don't you know that you belong to me? Get under my wing, where you will find some brothers and sisters.

9. "You are only just in time. I had given up hoping to see you, and had started on my way to show off my brood, and to tell the people why I had been away so long.

10. "Now we must stay here awhile, or you will take cold and die. So just get under my wing and smooth down your feathers. Then I will tell you some of the things you all want to know."

LESSON XIV.

WHAT THE HEN TOLD HER CHICKS.

Part 1.

1. "First let me tell you that I am your mother. I used to lay nice creamy white eggs, but they were always taken

from me. So I thought of an out-of-the-way place to hide them in.

2. "In this hiding-place I took great care of my eggs till I heard your voices. Then I knew I should have some little ones all my own.

3. "You must not think ill of the dark, hot place which you have just left. It was your first home, and you could not have been here at all without it.

4. "Your bones and feathers, and your lovely bright eyes, and all parts of you, were formed in the eggs which I kept warm with the heat of my body.

5. "I even went without food for days, so that none of you should catch cold. I am glad that I now have you all safe.

6. "You did not feel cramped, and you did not know it was hot and dark till just the right time for the shell to break and let you come 'cheeping' to me.

7. "The people at the house will call you chickens. They call me Pretty Peggy, but I know that I am a hen.

8. "Some people call us all barnyard fowls, but I cannot tell you why, for I know nothing about barnyards. I live near the cottage of a dear old lady.

9. "You want to know where you are?

Well, you are out in the world, and you must behave well, so that your mother can be proud of you.

10. "You must not go into the pond or brook. Your feet and bodies are not made for swimming.

11. "You must run to me when you are afraid, and always obey my call. The cat and the rat will not dare to touch you under my wing."

LESSON XV.

WHAT THE HEN TOLD HER CHICKS.

Part 2.

bar′-ley In′-di-an cus′-tards Dor′-king

1. "You must eat all that is given to you. It is your duty to grow as fast as you can into fine birds.

2. "At first, the kind people at the house will give you some nice soaked bread, and I shall scratch up the ground with my strong toes to find you some soft worms.

3. "By-and-by you will be fed on oats,

and you will begin to scratch for worms for yourselves.

4. "When you are grown up, you will eat wheat and barley and oats, and great big yellow grains of Indian corn.

5. "You will need to pick up and swallow little stones to grind these grains, for you have no teeth to do such work.

6. "Now I will tell you what you are here for. Some of you will have to lay eggs for breakfast and for puddings, cakes, and custards. Some of you will have to crow loudly to awaken lazy people early."

SCRATCHING FOR FOOD.

7. The good mother hen could not tell her chicks—I hope she did not know—that pillows are stuffed with the feathers of fowls that have been cooked and eaten.

It is better for the chicks not to know that they are of as much use dead as alive.

8. "I think it is time now," said Peggy to her brood, "to go towards the house. Mind, all of you hold up your heads and 'cheep, cheep,' when you pass Mrs. Dorking. She thinks no one has chickens as good as hers."

9. As soon as Grandma Hunt saw them, she called out, "Ruth! Mary! Arthur! Here is pretty Peggy come back.

10. "She has a fine lot of chickens. Each of you may choose one to keep for your own. We will pick out one for Albert, and one for Edward, too."

LESSON XVI.

WHAT THE LITTLE ONES SAY, AND WHAT THEY MEAN.

1. One evening the boys were out with their uncle. It was not quite bed-time, so the girls said, "Please, mother, tell us a story."

2. "Very well," said Mrs. King, "just a little one." So she began—

"A jolly old sow once lived in a sty,
And three little piggies had she,
And she waddled about, saying, 'Humph, humph, humph,'
While the little ones said, 'Wee, wee.'

3. "When they said, 'Wee, wee,' Mrs. Pig called, 'Little ones, come to supper.' What do you think they had? Why, some milk; then they went to sleep, and grew a bit older and a bit bigger before they awoke."

4. "That is not all, is it?" asked Mary.

"Not quite," said her mother. So she went on—

"Two woolly white sheep once lived in a
field,
Two sheep, both papa and mamma;
And they ate up the grass and the
turnips so sweet,
While the little one said, 'Baa, baa.'

5. "When it said, 'Baa, baa,' the mother sheep called, 'Little lamb, come to supper.' She gave it some milk. It was

quite happy, and began to grow fine and fat."

6. "Tell us some more, please," said Ruth.

So Mrs. King said—

"A very big dog once lay on some straw
With her little ones, taking a nap,
When a stranger came near, she said,
'Whoph, whoph, whoph,'
But the little ones said, 'Whap, whap.'

7. "In this way they asked for a drink. The mother dog gave them some milk. Then the little ones went to sleep, and were a bit bigger when they awoke.

8. "One more verse and this is the last," said Mrs. King—

"An old mother cat, she sat on a rug,
And four wee blind kittens had she;
She purred as she taught them a pretty cat song,
But they could say only, 'Mee, mee.'

9. "When the kittens said, 'Mee, mee,' they meant, 'Please, mother, give us some milk, and when we are older, we will learn to purr.' So the kittens had some milk, and soon afterward were strong enough to open their eyes."

LESSON XVII.

MILK, AND WHAT IT CHANGES INTO.

1. "See what dear kind grandma has brought for you," said Mrs. King, as she ended the story. On the table stood three cups of milk.

2. "Yes," said grandma, "I thought our little ones should have some milk, as well as other young things. I am sure they

must be hungry after playing out of doors."

3. "But, grandma, we do not drink when we are hungry; we eat," said Ruth and Mary.

4. "I know that," said grandma; "but when you take milk, you eat and drink too.

5. "Milk goes down like a drink; but when it gets down, some of it changes into a sort of soft cheese, which keeps you from feeling hungry, and helps to make you grow."

6. "How funny that seems!" said Mary. "Just think, we do not eat anything, and yet have cheese inside of us. It sounds like a fairy-tale."

"Yes," her mother said, "that is one of the true fairy-tales.

7. "It is quite time now to say good-night. I shall want two little maids to help me in the morning. So kiss grandma, then run up Wooden Hill and down Sheet Lane, and play the game of shut-eye."

8. So they said, "Good-night," and before long were all in bed and fast asleep.

LESSON XVIII.

A VISIT TO BETTY.

1. The next morning Ruth woke early. She heard a bird singing in the maple-tree. He seemed to say, "Come, come, Ruth, Ruth, Ruth! Come out with me, me, me!"

2. Mary was still asleep. So Ruth slipped out of bed and dressed without making a sound. She went softly down-stairs and out into the yard.

3. Just then Joe, the chore-boy, came by with a milk-pail in each hand. Edward ran beside him.

A MILK-PAIL.

"Joe is going to teach me to milk," said Edward.

4. "Oh, Joe, let me go too," said Ruth. "I want to learn how to milk."

"You may try," said Joe, "but milking takes strong hands."

5. Betty, the cow, looked kindly at the children when they came into the barn. Ruth stroked her soft brown nose. Edward fed her a wisp of hay.

IN THE BARN.

6. Joe brushed the under side of the cow's body, and washed it. Then he washed his hands and put on a clean jacket and clean overalls.

7. "To have the milk clean, Betty and I

and the milk-pails must be clean," he said.

The pails were so clean and bright that they shone. Soon the milk was streaming into the pail.

8. Edward tried to do just as Joe did, but he could not draw nearly as much milk. Ruth was not strong enough to draw any at all, but Joe let her help him strain the milk when it had all been drawn.

A MILK-STRAINER.

9. As they all walked back to the house, grandma came to the door.

10. "What helpful grandchildren I have!" she said. "Ruth and Edward have been helping with the milking, and Albert found seven eggs, and Mary cooked them. Now come, all of you, and have breakfast."

LESSON XIX.

CREAM.

1. After breakfast the boys went off to play in the hay-fields. They took Arthur with them.

"I will take good care of him, mother," said Albert.

2. Mary and Ruth went into the kitchen with Mrs. Hunt and Mrs. King.

"Would you girls like to whip some cream for me?" asked Mrs. King.

3. "Oh, yes, of course we would," said both the girls.

They took turns working the dasher up and down in the whip-churn. Soon the cream began to thicken.

4. After a few minutes Mary said, "There are little specks coming in the cream."

5. "Oh dear!" said Mrs. King, "the cream has turned to butter."

"Is it spoiled?" asked Ruth.

6. "I cannot use it in the dessert I am making for dinner," said her mother.

"You and Mary may make a pat of butter out of it, if you like. But first we must skim some more cream to whip for the dessert."

7. She brought out a pan of milk that had stood over night. On top of the milk was a layer of rich cream. While she skimmed it off she told the two little girls about cream and butter.

WHIPPING CREAM.

8. She said, "Cream is made of tiny balls of soft yellow fat, too tiny for our eyes

to see. Cream rises because it is lighter than the rest of the milk.

9. "When cream is churned, these fat balls are tossed back and forth so fast that they hit against each other and stick together in lumps. These lumps are the butter."

LESSON XX.

MAKING BUTTER AND COTTAGE CHEESE.

churn′-ing liq′-uid curd but′-ter-milk

1. "When I was a little girl," said grandma, "we made our own butter. The old churn is in the garret now. My brothers and I used to take turns churning till the butter came.

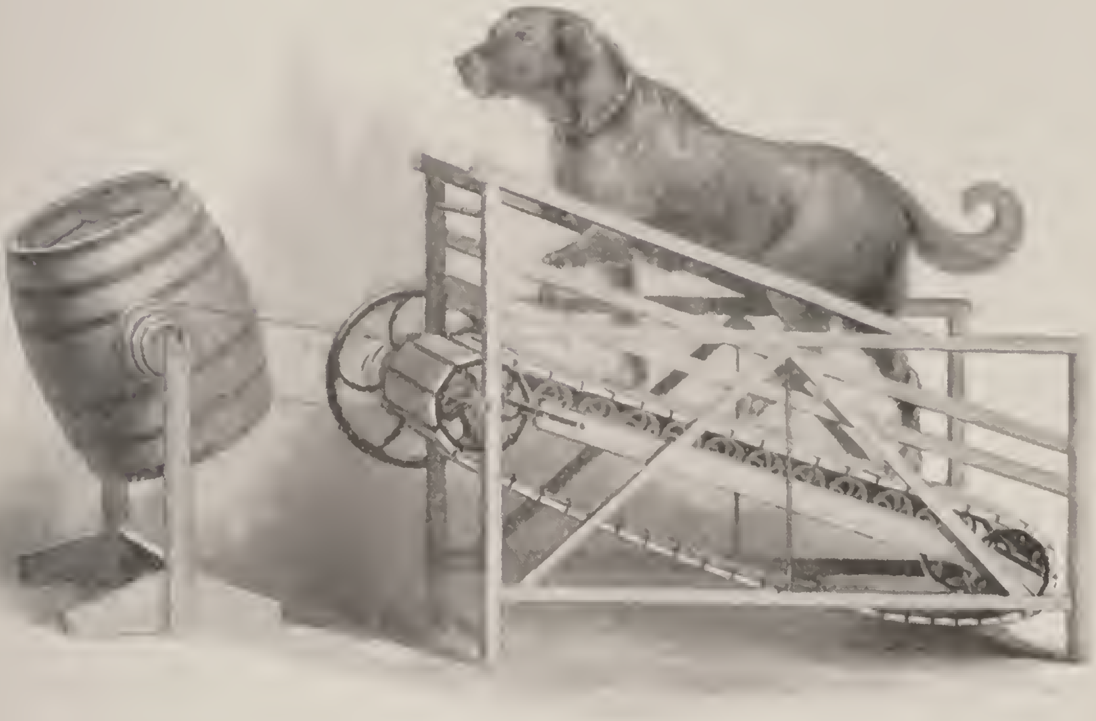
OLD-FASHIONED CHURN AND DASHER.

2. "Now people use a churn that turns over and over. Some churns turn by hand, some by steam, some by horse or dog power.

3. "Before the butter is ready to use

it must be drained, and washed in cold water and salted. The liquid that drains off is buttermilk."

4. While Mary whipped the new cream for her mother, Ruth drained the buttermilk from the butter she had made.



THE MODERN CHURN.

5. Then she washed it, and Mary worked it with a wooden spoon and salted it.

6. They ate their butter on slices of Uncle John's bread, but they did not like it quite so well as the butter from the store.

7. Mrs. King told them this was because it was made of sweet cream. Sour cream is best for making butter.

8. "That makes me think about my sour milk," said Mrs. Hunt. "I have enough to make some cottage cheese."

9. "May we watch you make it?" asked Ruth.

"Of course you may," said grandma.

10. She set the pan of sour milk on the stove. When it was warm, she stirred it gently.

"The milk is all lumpy," said Mary.

11. "The lumpy part is the **curd**," said Mrs. Hunt. "That is the part we make the cheese of."

She put the curd in a cloth, and squeezed it dry.

12. "Cottage cheese does not look like the yellow cheese we buy, does it?" said Ruth.

13. "The cheese we buy," said her grandmother, "looks like this at first; but many things are done to it which we shall not do to ours. Our cheese needs only to

have a little salt and butter or cream mixed with it to make it ready to eat."

LESSON XXI.

MAKING CHEESE.

ren′-net jun′-ket stom′-ach whey

1. "And what does other cheese need, grandma?" Ruth asked.

"Ruth, Ruth," said her mother, "you will tire poor grandma with so many questions."

2. "Are you tired, grandma dear?" said Ruth. "I did not mean to make you tired."

3. "No indeed," said Mrs. Hunt. "I like to talk with you while I work. But perhaps your mother can tell you more about cheese than I can."

4. "The cheese-maker does not wait for the milk to sour and curdle," said Mrs. King.

5. "He puts rennet into it to make the curd form. Rennet is a sour juice from

the stomach of a calf. You have something like it in your own stomachs."

6. "That must be why milk turns into a kind of cheese when we drink it," said Mary. "You know, Ruth, grandma told us about that."

7. "Yes, that is the reason why," said her mother. "You have seen me put rennet into warm milk to make junket. What happened to the milk?"

"It got thick, like a white jelly," said Ruth.

CHEESES.

8. "That white jelly is curd. If it stands long, it shrinks and grows tough. Then it is ready to make cheese of. The curd must be broken up, drained, salted, and pressed until every drop of whey is out.

9. "The pressed cheeses are set on shelves and turned every day for six weeks, or

until they have the right flavor. Some kinds of cheese are not ready to sell for several months after they are made."

10. "Mother, you said such a funny word a little while ago," said Mary. "I think you meant milk, but you did not say 'milk.'"

11. "No, Mary, I did not mean to say 'milk.' Look at what grandma squeezed out of her cheese; should you call that milk?"

"It does not look like milk," said Mary.

12. "It is milk with all the cream and curd taken out of it," said Mrs. King. "It is called **whey**."

"I am afraid I shall forget the new name," said Ruth. "I do not know it even now."

13. "You will never forget it, if you learn these four little lines," said her mother:—

14. "Little Miss Muffet sat on a buffet,
Eating her curds and whey;

There came a great spider, and sat down
beside her,
And frightened Miss Muffet away."

LESSON XXII.

HOME AGAIN.

1. At last the summer vacation was over. Mary took a farewell look at the bakery.

2. They all said, "Good-by, dear grandma, we shall soon come again."

"Good-by, Mr. White," they cried as they passed the mill.

3. Uncle John went with them to the station. There was no need now to keep to the footpath in the field. The grain was cut and carried, or stood in sheaves, or shocks, as they are sometimes called.

4. "I wonder if our wheat is ripe," said Albert.

"What can we do with it if it is?" asked Edward.

5. "I'll tell you," said Mary. "Albert must be the farmer who owns it. We must be his men and help him to cut it down, and get the seeds out of the ears. I'll make a little bag to put them in, so that he can carry them to the mill.

6. "Edward may be the miller. He must get mother to lend him her weights to use for millstones to grind the wheat. He cannot make fine flour, but that does not matter for play, does it?

7. "We can be Edward's men, then,

and take a turn at grinding when he is tired. Then he must sell his flour to Ruth. We can make play money by putting coins under paper and rubbing them with a lead-pencil.

8. "Ruth must keep shop, and I will buy her flour and make some bread. Then we will all have a bit, whether we like it or not."

9. Mrs. King listened, smiling. "That is a very good play, Mary," she said.

Mary's father thought so too when he heard about it.

10. I need not tell you, for I am sure you can guess what good fun the children got out of their game of—

FARMER, MILLER, STOREKEEPER, AND BAKER.

LESSON XXIII.

A LITTLE HOUSEKEEPER.

ten′-e-ment break′-fast butch′-er

1. Ella Peters is eight years old. She lives on the top floor of a tenement house in a great city. When she awoke one morning last winter, she saw her

father in the next room, bending over the stove.

2. "Father is getting his own breakfast," she thought to herself. "Mother must be sick."

3. She put on her clothes quickly, and went into the room where Mr. Peters was. She found him eating his breakfast of bread and coffee. Mrs. Peters lay asleep.

4. "Your mother had a pain in her head all night," said Mr. Peters. "You must stay at home from school to-day."

5. Ella's heart felt heavy. She thought of the big bright schoolroom, of the flowers and pictures in it, and of her teacher, whom she loved. She could not bear to think of the absent-mark that would go into the roll-book if she were not there.

6. But she said bravely, "Yes, father, I'll take good care of mother and the children."

Her father kissed her and went away to his work.

7. Ella helped John and little Maggie to dress, and then the three children had breakfast. After breakfast Ella and John washed the dishes and put the rooms in order.

AT THE BUTCHER'S.

8. "I help a lot, don't I, Ella?" said John proudly.

"Yes, you are a good little brother," Ella replied.

9. When John had gone to school, Ella took Maggie and went out to buy food for the day. She bought ten cents' worth of meat, a loaf of bread, and a few other things.

10. When Mrs. Peters saw the meat, she said it was tough and too fat.

"But I do not blame you," she added kindly. "The butcher cheated you. And now you must hurry to school. I feel so much better that I can sit up and take care of the baby."

11. Ella was so glad to go that she ran every step of the way.

LESSON XXIV.

ABOUT MEAT.

1. "Why are you so late?" asked Miss Bailey.

"My mother was sick, and I had to go to market," said Ella.

2. "What did you buy?"

"Some meat."

"What kind of meat?"

Ella was silent. She did not know what kind of meat she had bought.

3. "Let us have a lesson about meat today," said Miss Bailey.

4. She sent one of the older girls to buy small pieces of beef, mutton, pork, and veal. The beef was dark red and juicy. The mutton and the pork were of a lighter red, and the veal was pink. The beef had white fat, the mutton softer, yellower fat.

5. The children soon learned to tell one kind of meat from another.

"Now, children," said Miss Bailey, "what is beef?"

6. The children thought it was the flesh of some animal, but they were not sure what animal it was.

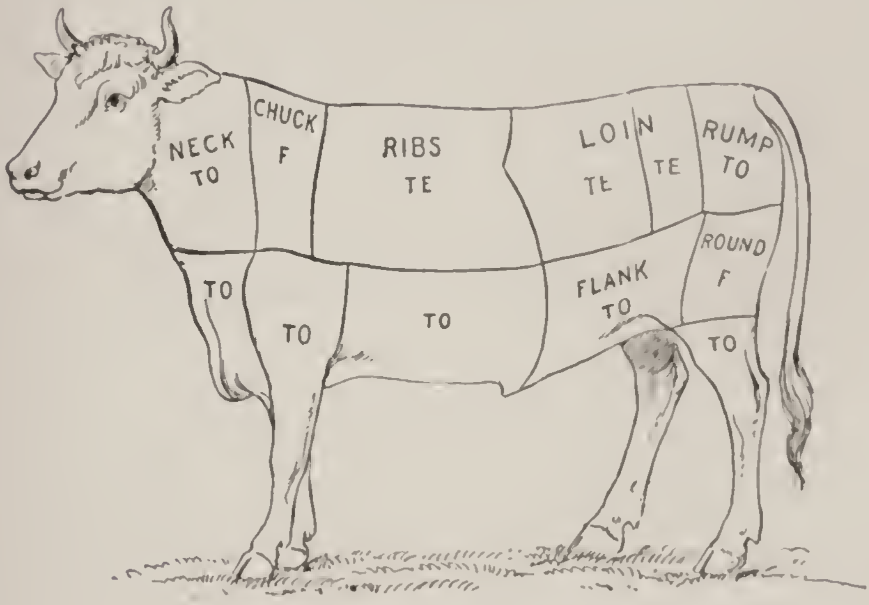
7. Miss Bailey hung a picture of an ox on the wall. Many of the children had never seen an ox. They had never been in the country, and oxen are never seen in cities.

8. "Beef is the flesh of an ox," said Miss Bailey. "Mutton is the flesh of a sheep, veal of a calf, and pork of a hog.

Lean flesh is muscle. The flesh of your bodies is muscle. Move your arms."

9. All the children moved their arms up and down and around.

"Now hold your right arm above the elbow with your left hand, and move your right arm."



TO =Tough TE = Tender, F = Fairly tender.

10. The children did so. They could feel the muscles of their arms grow hard.

11. "Every time you move your muscles they grow stronger and tougher. What parts of your body do you move the most?"

"Our arms, our legs, our necks," said the children.

12. "Animals, too, move their legs and necks most. You see, then, that meat cut from the leg or neck is tough. Meat from the back, or loin, and from the ribs is tender, but less juicy.

13. "Tough meat is made tender by slow cooking."

"The next time I go to market," thought Ella, "I shall know how to choose the meat."

LESSON XXV.

FISH—KILLING FOR FOOD.

mack′-er-el had′-dock her′-ring poul′-try

1. A father one day took his two children for a walk. They came to a brook, and stopped to watch the fish darting about in the clear water.

2. "Father," said the little boy, "do fresh fish live in fresh water, and salt fish in salt water?"

3. "No, my son," answered his father. "Fish are salted after they are caught. But it is true that the kinds of fish most

commonly salted are taken from the ocean.

4. "Cod, mackerel, haddock, and herring are all salt-water fish. Whole fleets of fishing-boats go out every year, and come home laden with the fish that the men on them have taken in nets.

5. "The flesh of fish is something like meat, but more flaky. It is best when fresh from the water."

6. "It seems cruel to catch the poor fish and eat them," said the little girl.

"But," said her father, "many more fish are killed by other fish than are caught by men. If the fish could choose, perhaps he would rather make a dinner for a little girl than for a hungry fish bigger than himself."

7. A little farther on they passed a poultry yard. Some ducks ran away at the sight of them, but a flock of young turkeys got right in their way.

8. "Perhaps they think it is Thanksgiving or Christmas," said the boy, "and they are telling us that they are ready for market."

"Chickens go to market all the year round," said the man.

9. "If it is not cruel to catch fish, it cannot be cruel to eat chickens," said the little girl.

10. "It is not wrong to kill what we need for food," replied her father. "But it is wrong to treat any animal unkindly while it is alive."

11. The boy had picked up a stone, but when he heard his father say this, he dropped it. Can you guess what he had meant to do with it?

LESSON XXVI.

THE POULTRY FARM.

in′-cu-ba-tor cud′-dled brood′-er feath′-ers

1. When you see plump white chickens hanging in a row in the butcher's shop, do you ever wonder where so many chickens come from?

2. Chickens are raised for market on poultry farms. Let us play that we are going to visit one of those farms.

3. See the rows of long low buildings where the fowls live. In some of these buildings there are wooden chests with glass fronts. These are incubators. In each incubator is a tray full of eggs.

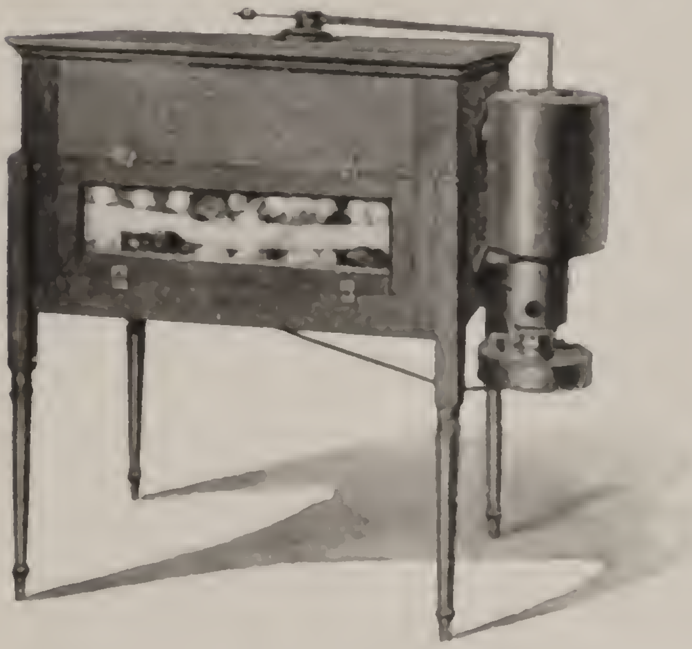
A POULTRY FARM.

4. Let us look through the glass and see what happens to the eggs. One of them is cracked. Watch it. It is breaking open.

5. Soon a chick comes out. By-and-by a man will take the chick and put it

with other chicks in another chest, called a brooder.

6. Have the chickens no mother? No, poultrymen have found that they can hatch more chickens in incubators than under hens.



AN INCUBATOR.

7. The incubators and the brooders are kept very warm. The little chickens seem just as comfortable and happy as if they were cuddled under the wings of a mother hen.

8. When feeding-time comes, a man puts a tube into the mouth of each chicken in turn, and squeezes the food down its throat. When the chickens are older, they are allowed to run in the yards between the chicken-houses. There are wire fences to keep them from getting away.

9. Tame fowls have little chance to use

their wings. This is why the wings of a cooked fowl are tender. But they use their legs a great deal. This is why the "drum-sticks" are tough.

10. After chickens and fowls are killed, their feathers are plucked. Often women and girls do this work. The floor of the room where they work becomes covered with feathers.

11. Chickens are sent to market packed in barrels. They can be kept good a long time on ice.

12. Many kinds of wild birds and some wild animals are good to eat. These are called **game.** Game is either shot or caught in traps.

LESSON XXVII.

FIRE AND WATER.

PART 1.

crack′-le dis-pute′ tea′-ket′-tle oat′-meal

1. Fire and Water once had a dispute. Each held that he was more useful than the other.

2. "Crackle, crackle," said Fire, "I am sure you could better be spared from the house than I. Do I not cook the food three times a day, and keep the rooms warm too?"

3. "Bubble, bubble," replied Water from the tea-kettle, "I think I do as much as you about the cooking. Could the family have coffee or oatmeal or soup without me?

4. "I wash the dishes, too, and the clothes, and clean the floor."

"But not till I have made you hot," put in Fire.

5. "I work better when I am hot, I admit," said Water, "but I am not useless when I am cold."

6. "Except when you are frozen," returned Fire. "What would you do then without me to thaw you out?"

7. "Wait for the sun, I suppose," answered Water, pleasantly. "But even when frozen I am useful. As ice, I keep food from spoiling."

8. "Not so well as I do," said Fire.

"When people wish to keep food a long time, they cook it and seal it up tight."

9. "Yes, you do good work in that way. But at most, you only help to make food ready to eat. I am a part of the food.

10. "I am the liquid part of milk and the juice of meat and fruit. There is some of me in almost every kind of food.

11. "More than half of a man's body is water. Without me he would soon die."

"And would he not die if he did not have me to keep him from freezing?" asked Fire, hotly.

12. To this Water replied, "There are parts of the earth so warm that people do not need a fire, and there are many kinds of food that do not need cooking.

13. "But no man or animal or plant can live without water. I am in the sap that feeds every little leaf and twig. I give life, you destroy it.

14. "The poor little plant, withered by the hot sun, revives quickly in the shower. The traveler, dying of thirst in the desert, is saved by a drink from a spring."

LESSON XXVIII.

FIRE AND WATER.

Part 2.

sea′-weeds drafts wa′-ter-pipes′ gur′-gling

1. "I never heard anything so silly," said Fire, leaping up angrily. "Think of the thousands of people and animals you have drowned. Think, too, how much more land there would be to live on, if you did not cover so much of the earth."

2. "You forget," said Water, in a

gentle, humming voice, "that thousands of fishes and hundreds of kinds of sea-weeds live in the ocean. Can you tell me of anything that lives in fire?"

3. "You are very rude," said Fire. "I will make you so hot that you will boil away."

4. "Then you will ruin the kettle and make the breakfast late," answered Water, with a gurgling laugh. "But you will not hurt me at all.

5. "I shall change into vapor and float in the air for a while. People will call me cloud.

6. "Then I shall fall to earth as rain. I shall run into rivers and wells and through water-pipes into houses.

7. "Perhaps I may come back again into this same kettle. But you will have gone out long before that.

8. "I could boil over and put you out now, but I will let you last a little longer."

9. At this Fire blazed up more angrily than before. Just then the housekeeper

closed the drafts to keep the coal from burning up too fast. So nothing more was heard from Fire.

10. Puff, puff, came the white steam from the spout of the kettle.

"The water is boiling," said the housekeeper.

11. She poured the boiling water on to the coffee in the coffee-pot. But Water kept on laughing merrily.

LESSON XXIX.

THE BABY SISTER.

1. Dora Bond is one of the dearest girls in the world. Her mother calls her "Sunbeam." Her baby sister laughs and claps her tiny fat hands when Dora comes home from school.

2. Dora likes to play and to visit the girls she knows; but she is always ready to help at home when she is needed. Often she gets so much fun out of her work that she finds it as good as play.

3. One Saturday morning in June she

was taking care of the baby while her mother was busy about the house.

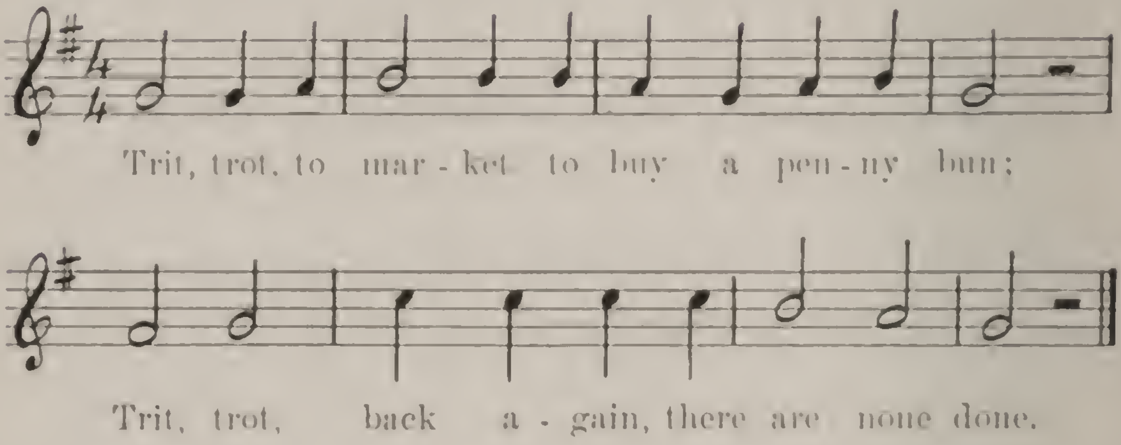
Sometimes baby did not like to be dressed, but this morning she laughed and crowed all the time.

TAKING CARE OF THE BABY.

4. Dora counted her toes and called them "piggies," as she put the little pink feet into shoes and socks. Then she played at "Peek-a-boo," as she put the baby-clothes over her head, and fastened

them with tapes and buttons. Nurse Dora knew better than to use pins.

5. When baby was all dressed, she gave her a ride on her lap as she sang—


Trit, trot, to mar - ket to buy a pen - ny bun;
Trit, trot, back a - gain, there are none done.

6. "Dora, dear," said her mother, "you and I must soon—

'Trit, trot, to market to visit Mr. Bull;
Trit, trot, back again with hands quite
full.'"

LESSON XXX.

GOING TO MARKET.

1. "Oh, mother!" said Dora, "am I really going to market with you? What fun! What shall we buy? When shall we start?"

2. "We shall start as soon as we can,

and buy what Mr. Bull sells, I suppose," said her mother.

3. "Let me think," said Dora. "Mr. Bull sells all kinds of vegetables, doesn't he, mother?"

4. "A great many kinds, Dora, and dry groceries, such as tea, flour, and sugar, besides.

5. "Why, here is cousin May. How do you do, my dear, and how is your mother?"

6. "I am very well, thank you, auntie, but mother is sick. She cannot go to market to-day. May I go with you to-day, auntie? Then I shall know how to buy things another time."

7. "Of course you may go with me," said her aunt. "Dora is going too; but we are not quite ready yet. Were you told what to buy, May?"

8. "Oh, yes, auntie; and yet I am not quite sure what to get. It is like this. We have plenty of tea and sugar and other things like that, but I was to ask you kindly to help me to buy fresh

vegetables and fruit. Mother said you would know best what to buy."

LESSON XXXI.

A TALK ABOUT POTATOES.

Part 1.

po-ta′-toes	sprouts	jui′-cy	tu′-bers

1. "We had better think about what we want before we set out," said Mrs. Bond. "May, will you please take the baby, while Dora goes to see if we have any potatoes in the cellar?"

2. Dora came back saying there were only a few left, and they all had white sprouts like one she brought up.

3. "Ah," said Mrs. Bond, "we must have new potatoes to-day. These old ones will do only for a stew, not for boiling or baking. They would like to do something for themselves, instead of being food for us."

4. "Oh, auntie, just imagine potatoes *wanting* to do anything at all," said May.

"Yes, my dear, you may say 'imagine,' but it is true, in a way.

5. "These sprouts say quite plainly without words, 'We are ready to make some new potato plants, if you will put us under ground. You may cut us up, but don't hurt our eyes, and then we will make new plants.'"

POTATO SPROUTING.

6. "Is that what they do, mother?" Dora asked.

"Yes, it is," said her mother. "Just look where the sprouts come from."

7. "Oh, I see," said both Dora and May. "One or more sprouts come from each eye."

8. That is because the eyes are buds," said Mrs. Bond. "When a farmer wants to plant his field or garden with potatoes, he takes good care to have eyes in each piece he plants."

9. "What large seeds potatoes are, auntie! I never saw such big ones before; some seeds are so small we can hardly see them."

10. "My dear May," said her aunt, "you

must not think the potatoes we plant are seeds."

LESSON XXXII.

A TALK ABOUT POTATOES.

PART 2.

1. "I know what they are," said Dora. "They are roots; we dig them up, you know."

2. "No, Dora, you are not quite right. Potatoes are not roots. Should you like to know what they really are?"

3. "Oh, yes, mother; for if they are not roots and not seeds, I cannot imagine what they are."

"Well, I can wash dishes and talk, and you can tend baby and listen; so I will tell you about it now."

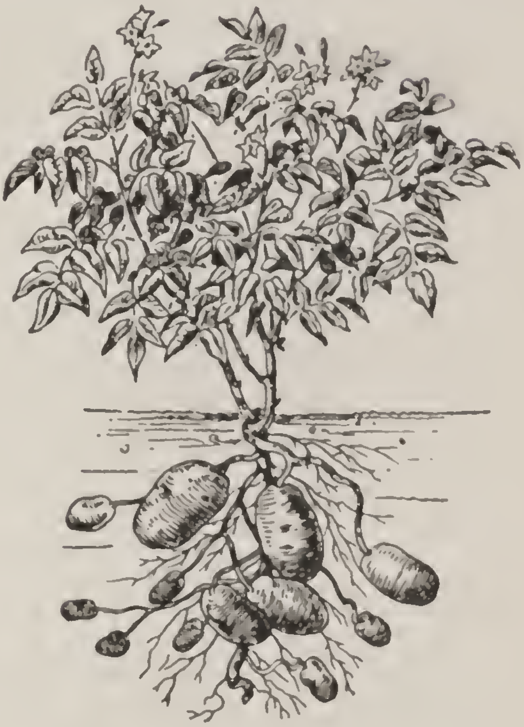
4. Dora drew her chair nearer, while May began to dry the dishes.

"The potato plant has a juicy stem, with many green leaves and a pretty white or purple flower.

5. "Part of the flower is a seed-case,

which grows so big that it looks like a green ball.

6. "Neither the seed-cases nor the seeds are good to eat. So you see our potatoes are not seeds.



7. "Dora thought they were roots, but this is not true. Roots do not have buds, as potatoes do.

8. "A potato plant has two sets of stems. The set of stems above ground bears leaves and flowers and seed-cases with seeds.

9. "The set of stems below ground bears hard, juicy, white balls, wrapped up in light brown coats. These are tubers, which we call potatoes."

10. Dora asked if sweet potatoes were tubers, too. Her mother told her that they were really roots. They do not belong to the same family even as the white potato.

LESSON XXXIII.

SUMMER VEGETABLES.

cau′-li-flow-er
as-par′-a-gus
to-ma′-toes
cu′-cum-ber
veg′-e-ta-ble
cab′-bage

1. "I shall buy a cabbage, as well as potatoes," said Mrs. Bond.

"Mother likes brussels sprouts better, auntie," May said.

2. "But we cannot get brussels sprouts now; they will come in the winter time," said her aunt.

3. "Then I think I will buy cauliflower."

"We may be able to get a cauliflower, but they are better in the autumn.

A CABBAGE.

4. "I think it is a very good thing that these vegetables of the cabbage kind are not all at their best at the same time of the year. We get a change, and yet the same kind of food all the year round."

5. "Are cauliflowers of the cabbage kind?" asked Dora.

"Yes, my dear," said her mother. "They do not look alike, but the way they grow from the seeds shows that they belong to the same family, and so do brussels sprouts and lettuce.

CAULIFLOWERS.

6. "We will make cole slaw of our cabbage for dinner to-day. In winter I like it boiled. I shall buy asparagus for Sunday."

7. "We had asparagus yesterday," said May; "what else can I buy?"

"Can either of you think of any other

vegetables that are now in the market?" asked Mrs. Bond.

BRUSSELS SPROUTS.

8. "I can," replied Dora, "summer squash, and tomatoes, and cucumbers, and string beans."

"Oh, that makes me think of corn and beans mixed together," said May. "Father is very fond of that. Can I get corn and beans now?"

9. "It is too early for corn," said her aunt. "Corn comes in July, and lima beans are not cheap now. If you want a vegetable of this class, why not get peas? June is the best month for peas."

LESSON XXXIV.

PEAS AND BEANS.

1. "Why did you say 'a vegetable of this class,' auntie?" asked May.

2. "Have you ever seen peas and beans growing?" asked Mrs. Bond.

"Yes, ever so many times," said May. "So have I," said Dora.

3. "Did you notice that they both hang down on a short stalk?" said Mrs. Bond.

PEAS.

4. "If we look at the flowers that grow on all the pea and bean plants, we shall find that their shapes are very much alike, though their colors are not the same.

5. "The pea-blossom is white, the blossom of the lima bean, creamy-white. Other

kinds of beans have white blossoms, sometimes tinted with pink, pale blue, or yellow.

6. "These pretty flowers take care of something inside of them. If we peeped in, we should see tiny green pods.

COMMON WHITE BEANS.

7. "As soon as the pods are big enough to do without being wrapped up, the petals dry and fall off. The pods go on growing, till somebody comes along with a basket and picks them off to send to market.

8. "Before buying peas, I always snap a pod in two, to see if it is crisp and brittle. If the pod is brittle, the peas are fresh."

9. "Oh, what an easy way to tell!" said Dora. "May we try too?"

10. "Yes, indeed," said her mother; "but the sharp cracking sound will seem to say to you—

'We are fresh, we are fresh from the
garden or field,
And when we are opened, our treasures
we yield.'

11. "And when they are opened, what do you see?"

"We see beans or peas to eat," said the girls.

12. "Yes, and those really are seeds," said Mrs. Bond; "for, you know, they were formed inside the flower. Beans and peas are richer than other vegetables. They contain a food-stuff something like the gluten of wheat.

13. "We eat the seed-cases of string beans as well as the seeds, and find them very tender and sweet. But we do not eat the seed-cases of peas or lima beans."

LESSON XXXV.

AT THE MARKET—WINTER VEGETABLES.

soup′-greens pars′-ley spin′-ach cel′-e-ry

1. A few minutes later, when May had taken the baby, so that Dora might put the dishes away, Mrs. Bond said, "May, dear, I am afraid your mother will not be able to eat either beans or peas."

TURNIPS.

2. "Oh, no, auntie; mother has lived on milk lately, but the doctor says she may have some mutton broth now."

"Then we will ask Mr. Bull for some soup-greens to flavor the broth."

3. Dora turned around with a dish in her hand.

"What will he give you, mother?" she asked.

"You will see," replied her mother. "Now, Dora, work is done. We must get ready to go."

4. May thought it would be a good plan to write down what was wanted while her aunt and Dora put on their wraps. When she read the list, Dora said, "Mother told me we should come back with our hands full, but I am sure we can never carry all you have put down."

AN ONION.

LEEKS.

5. "We can put some into the baby carriage, you know," said her mother.

Off they started, and were soon standing under the awning in front of Mr. Bull's store. Here they saw almost all the vegetables they had talked of, and some others besides.

CARROTS.

6. Green spinach and lettuce, trim bunches of asparagus, young beets too, and little silvery white onions—how fresh and tempting they all looked!

7. The girls learned that heavy firm cabbages are best. They broke the peapods and found them crisp. They observed that Mrs. Bond picked out aspar-

agus with slender stalks and tender green tops.

8. They found that a bunch of soup-greens was made up of a carrot, a turnip, an onion or a leek, a sprig of parsley, and a stalk of celery.

PARSNIPS.

9. "We have not had turnips or parsnips for dinner in a long time," said Dora.

10. "We shall have them again next winter, when we cannot get green vegetables," said Mrs. Bond. "We must make the most of summer vegetables while they last."

LESSON XXXVI.

SOME COMMON FRUITS.

straw′-ber-ries
mel′-on
rasp′-ber-ries
rhu′-barb
cur′-rants
cher′-ries

1. The children saw at the store something they had not talked about at home. That was some fine fruit—cherries, currants, strawberries, raspberries, and melons.

2. Dora was glad that there was no rhubarb; she had grown tired of that. Mrs. Bond bought melons for breakfast, and strawberries for a shortcake. May bought the same kind of fruit that her aunt did.

3. "Is that all?" said Mr. Bull. "Now is the time to can strawberries. They are better and cheaper to-day than they have been all this season."

4. As the fruit was really ripe and sweet, Mrs. Bond ordered several more baskets to be sent the next day.

"Aren't you going to make currant jelly?" asked May.

5. "Yes, in about two weeks," said Mrs. Bond. "Currants are usually at their best the week before the Fourth of July."

6. "And after currants are gone, it will be time to put up blackberries," said Mr. Bull, "and peaches, pears, and plums will then be coming in.

7. "So one sort of fruit follows another, and we have something to sell, and you have something to buy, all the year round."

8. For a long time Dora had been looking at a basket of big round cherries. Their rich red color made her mouth feel as if it wanted to taste some, and see if they were as sweet and juicy as they looked.

9. "Dora," said her mother, "you are like the robin I read of."

"How am I like a robin?" asked Dora.

10. "You shall read for yourself, and then you will know," said her mother. She bought some cherries, and Mr. Bull gave May and Dora a few.

11. Among Dora's there was a little bunch of three. She wanted to eat them, they were so good; and she wanted to wear them, they looked so pretty.

12. She pinned them on the front of her gown, but they did not stay there long. She was so very much like a robin.

LESSON XXXVII.

FRUIT FROM SOUTHERN LANDS.

Cal-i-for′-ni-a	rai′-sins	ba-na′-nas
lem-on-ade′	wa′-ter-mel′-on	per′-sim-mon

1. The weather was very hot, so Mrs. Bond bought some lemons to make lemonade. May would have bought an orange, but Mr. Bull could not speak well of the few he had. He said oranges were best early in the year. He had good bananas, but May did not care for bananas.

2. "May, dear, will you take this bunch of grapes to your mother, with auntie's love?" said Mrs. Bond, "and ask her to let you come this afternoon, and bring

Ethel and Joe with you. I will make a currant cake, and you shall have a little party."

3. "Oh, you are the best auntie in the world!" cried May. "We will come if Mrs. Lewis will stay with mother. Are those red currants for the cake?"

4. "No, dear, the currants in the cake will be black. We call them currants, but they are really little dried grapes. They grow far away from here."

"In another country?" asked Dora.

5. "Perhaps so," said her mother. "Or they may have grown in California in our own country. Raisins are larger grapes, dried in the sun as currants are. They, too, come mostly from other countries, but some are made from California grapes.

6. "Other dried fruits—dates, figs, and prunes—also come to us from California, as well as from foreign countries. This country is so large that there is hardly any kind of fruit that cannot be grown in some part of it.

7. "In the southern states the sun shines

L. of C.

hot the year round. Here are orange groves; here, too, is the home of the watermelon and the persimmon. In the north apple trees flourish. Can you think of some fruits we have not spoken of that grow in the United States?"

8. "Quinces," said May.

"And ever so many more kinds of berries and grapes," added Dora. "What a wonderful country we live in!"

9. May kissed her aunt good-by, and thanked her for her kindness. Mrs. Bond and Dora went home together with the baby fast asleep in the carriage.

10. In the afternoon, the girls read the verses that made Mrs. Bond say Dora was like a robin.

Here are the verses for you to read too—

11. "Under the tree," the farmer said,
Smiling and shaking his wise old head,
"Cherries are ripe, but then you know

There's the grass to cut, and the corn to hoe.
We can gather the cherries any day,
But when the sun shines, we must make our hay.
To-night when the work has all been done,
We'll muster the boys for fruit and fun."

12. "Up on a tree," a robin said,
Perking and nodding his saucy head,
"Cherries are ripe, and so to-day
We'll gather them while you make your hay.
For we are the boys with no corn to hoe,
No cows to milk, and no grass to mow."
At night, the farmer said, "Here's a trick!
These roguish robins have had their pick."

13. "I suppose, mother, you will call me Robin now," said Dora.

"No," said her mother, "I shall still call you my Sunbeam."

LESSON XXXVIII.

FAIRY NANCY AND WHAT SHE DID.

1. "Where is my book, mother?" asked Nancy West, as she came into the room where her mother sat sewing. "I want to finish it before supper, and I can't find it."

2. "I think I saw it lying on the sofa," said Mrs. West.

3. Nancy started to go for her book, but a thought that came to her made her turn back.

"Aren't you tired, mother dear?" she asked. "Isn't there something I can do to help you?"

4. Mrs. West looked up from her work, stroked the little girl's head, and said, "I was just wishing a fairy would get tea ready, and, lo! my own little daughter

comes to do it. Now I can sew, while I tell you what to do."

5. "I think I know what to do, mother, because I've watched you so often," said Nancy.

"Very well," said her mother. "I know fairies can do things without being told."

6. So Nancy filled the kettle with freshly-drawn water, and put it on the fire. Next she tried to spread the tablecloth, but it would not come right. "Oh, I see," she said to herself, "I forgot to take the colored cloth off first."

7. So she folded it up, and then the linen cloth lay smooth, with its middle crease down the length of the table, and the ends hanging evenly.

8. In the middle of the table Nancy placed a vase of flowers. She spread the tray-cloth at one end.

9. On this she placed the cups and saucers, the pitcher, and the sugar-bowl. She did not forget the sugar-tongs nor the slop-bowl, and besides these she put stands for the teapot and hot-water pot.

10. Visits were made to the cupboard, and large and small plates, clean knives and forks and teaspoons were placed for each person.

11. She was very careful to see that everything was in just its proper place. On a table in the kitchen stood the bread, butter, and two knives.

LESSON XXXIX.

MAKING TEA.

1. "I have set the table, mother," said Nancy, as she placed a dish of jam and a cake upon it.

2. "How quiet you have been! I heard no rattle and clatter with the tea-things," said her mother.

3. "No," said Nancy, "I thought I would try to be as quiet as you are, mother. Shall I make the tea now?"

"Not yet, Nancy; the water does not boil."

4. "How can you tell?" asked Nancy. "I did not see you look."

"I did not look," her mother said, "but I can hear when the water boils.

5. "Boiling water will make less noise than that in the kettle is making now. It must be quite boiling if the tea is to be good, and we do not want it made long before we drink it. Is the teapot ready?"

6. "Yes, mother, it is very hot, and I have put into it a teaspoonful of tea for each of us and one for the pot, and the cosey is ready to put over it."

7. "That is right," said her mother. "Now I will fold my work and cut the bread and butter."

Soon Mrs. West said, "Listen, that is the sound of boiling water, and here is father. Make the tea, Nancy dear."

8. When the tea was poured out, Mr.

West drank a cup and said, "I am glad to have a cup of really good tea; it makes me feel less tired. No one makes such good tea as you do, wife."

9. Then Nancy felt very much pleased, and her mother told her father about the fairy daughter who got supper all by herself.

10. "All but cutting the bread and butter," said Nancy.

After supper, she cleared away the things as quietly as she had set them out, while her mother sewed, and her father read or talked.

11. Nancy's brother Robert had been told not to drink tea. When he came home, she said, "May I make Robert's coffee?"

"*You* can't make coffee," said Robert.

LESSON XL.

MAKING COFFEE.

1. "Nancy made a good cup of tea for me," said Mr. West.

2. "Oh, well! tea is easy to make, and

coffee isn't," said Robert. "I tried to make some one day when mother was out, but it was not fit to drink."

3. "That is very likely," said Mrs. West. She gave a little nod. Nancy knew what it meant, and went to the kitchen. Soon she came back with coffee steaming hot.

4. "It smells good, and it tastes good," said Robert as he drank it.

"Nancy, tell Robert how you made it, and we shall find out why his was not fit to drink," said Mrs. West.

5. So Nancy began, "First, I made the coffee-pot hot by scalding it with hot water."

"That's one thing I did not do," said Robert. "What's the good of making an empty pot hot?"

6. "That was your first mistake," said his mother. "The pot must be hot if the coffee is to be perfect in flavor."

7. "Next I put three rounded table-spoonfuls of coffee, with three of water, and part of an egg, shell and all, into the pot."

8. "So did I," said Robert, "only I used a whole egg."

"Oh, you were wasteful," returned Nancy, "half an egg is plenty. I can make good coffee, but not such *clear* coffee, with no egg at all.

9. "Next I waited to hear the proper sound to tell me that the water really boiled. If mother had not taught me to listen, I should have added the water too soon; for steam came out of the kettle before the right sound came."

10. "That is the second mistake I made, for I put the water on the coffee as soon as I saw a sign of steam. What did you do next, you clever little woman?" said Robert.

11. "Why, Robert, after I had poured in three cups of boiling water, I let it boil three minutes and then stand on the back of the stove ten minutes.

12. "It seemed as though a dark brown cap made of coffee was on the top, but I poured in a little cold water and all the grounds went to the bottom."

13. "All the grounds were floating on the top of mine, and that was one reason why I did not like it," said Robert.

LESSON XLI.

MAKING COCOA.

1. "Well done, daughter," said her father. "Do you know how to make cocoa as well as tea and coffee?"

2. "No, father," said Nancy. "We do not have it often, and when we do, mother

makes it while I am doing something else."

3. "You deserve to be taught; so you shall have cocoa for breakfast to-morrow morning, and you may see me make it," said Mrs. West.

4. Nancy clapped her hands. Mrs. West did not allow her little girl to drink tea and coffee, and Nancy sometimes tired of milk, even in a silver mug.

5. Next morning, Nancy saw the reddish-brown powder mixed with some white sugar in a saucepan. She saw a little boiling water poured on, and watched the dry mixture change into a thin, dark brown paste.

6. Then more water was poured on, and after that had boiled, hot milk was added.

7. Mrs. West stirred the cocoa steadily for quite five minutes after it began to boil. Once the cocoa nearly boiled over the edge of the saucepan.

8. "I think I shall have to see you make cocoa a few more times, before I dare say, 'Please let me make it,'" Nancy said.

9. Mrs. West smiled, for she knew Nancy was right. Cocoa needs more constant care than either tea or coffee.

10. One day soon after this, Nancy saw a new book beside her plate. A little note inside said—

> "*To my dear daughter Nancy.*
>
> "She will find in the pages of this little book a great deal about the plants we use for food and drink. I hope she will read all the book, which is a present from her loving
>
> "FATHER."

11. You may be sure Nancy hugged and kissed her father and thanked him again and again. As her mother did not want her help, she went to a quiet corner to read her book. Some day she will tell you what the book told her.

LESSON XLII.

THE STORY OF SALT.

PART 1.

emp′-ty-ings	min′-er-als
ce′-re-als	mes′-sen-gers

1. "Nancy, I need the salt too," said Mrs. West one day, when her little girl was

watching her make the emptyings for the bread.

2. Nancy had not thought that salt was quite so necessary as flour or yeast. But bread would taste very flat without any salt, and it would not be so healthful either.

3. Salt is the only mineral that is necessary to the life of the higher order of animals. In China people are sometimes punished by keeping salt from all their food. They soon grow weak, and after a time die a painful death.

4. Nancy was much surprised when her mother told her this, for she had never thought that people could die from a lack of salt. She only thought that it was used to make food taste better.

5. But she remembered how carefully the cattle and sheep were fed with salt and how they enjoyed it too. Meat and fish that are to be kept for some time are preserved in salt brine or cured in fine salt. No ham, no bacon, no dried beef or salt fish, no butter that will keep, no spicy

pickles, no tasty vegetables or appetizing cereals without the use of salt.

6. Mrs. West then told Nancy that better meat came from cattle and sheep that are raised upon marsh meadows along the seashores of Germany, Holland, and some other countries in Europe. This is because the marsh grass is salted by spray from the ocean's waters.

7. "Oh, mother," said the little girl, "do tell me more. Please tell me the whole story of salt—what it is, where its home is, and how it came to us. Please, mother, make the salt talk and tell its own story."

8. "Well, my dear," said Mrs. West, "I think it would tell a story something like this:"

THE STORY OF SALT.

Good morning, good people. I am always glad when anyone wants to get acquainted with me, for I am an old, old friend. Why, I am older than the hills. Many and great have been the changes in our big round earth in my time.

9. Once the salt seas rolled where hills now stand. Oh, how much sea there was in those ages! My home was in the rolling waters, and I traveled almost around the world. But the sun sent heat messengers down, and much of the water went away with them, leaving me lying in a thick bed of hard salt, or sinking in a pool of strong brine. I was too heavy to fly away with the vapor, you see.

10. There I lay until hills were thrown up about me and I became covered with earth and rocks. Such wonderful changes went on in those times! Trees grew over my head and fell; more soil and rocks drifted over them, and then other trees grew. This was repeated again and again until I was buried deep, deep down beneath layers of earth and rocks.

11. So deep was I buried that I wonder I was ever found. Just imagine the change, good people! From a great restless sea-home to a closely shut room in the earth! But this was all for the best. I now understand why I was stored away in this way.

12. As people must have salt, they searched till they found me. Sometimes, when men bore down into the earth for oil, I surprise them and tell them that I am there too. Oil and I are usually neighbors in the earth. In some places I am found in mines, then I am called rock-salt. In other places I lie in a strong brine, and people sink wells and pump me up. Along the seashore I am taken from the sea-water.

13. Iron and clay often live with me, and then men say I am impure, and they take the iron and clay away. This changes my color, for I grow very white and clear. The iron and clay make me red or yellow, and sometimes blue. People like my pretty six-sided crystals. They are cubical and show that I am a mineral.

14. I am spoken of in the Bible. I am everyone's friend. I am found in all parts of the earth. I am sold so cheaply that everyone can buy me. Some people pack my crystals tight together in cakes and use me as money or signs of friendship. Oh, how glad I am to be of use! Better to be

a help to someone than roving about with the restless sea.

LESSON XLIII.

THE STORY OF SALT.

PART 2.

res′-er-voir
sat′-u-ra-ted
pick′-ax-es
e-vap-o-ra′-tion
glob′-u-lar
vac′-u-um

1. There are some wonderful salt mines in the earth. The largest one is near Cracow in Europe. So large is it that it is divided into layers, or floors. There are four of these layers. Here the salt is cut out in galleries and the roofs are arched.

2. The salt rock is hard, grayish in color, and quite clear. No blasting is done within this mine, the rock is broken up with pickaxes. The grinding and packing of the salt is done within the mine. Nearly one thousand people work there.

3. In the lower layer of this mine is a little village, built by the people who are employed in working it. How deep their home is in the earth! An altar has been

built there, too, where these people may worship.

4. The length of the galleries added together would make a distance of thirty miles. This great mine has been steadily worked for over six hundred years. Many other mines are near this one, but they are not so large or so interesting.

A SALT MINE.

5. Rock-salt may be broken into large lumps and used for preserving meats, fish,

etc. If the rock be of a very pure quality it may be ground for table use. Salt from Cheshire, England, is said to be the purest in the world. Where impurities are found, the rock is melted in sea-water or brine.

6. This brine is then allowed to stand in reservoirs or long, narrow pans until some of the impurities sink to the bottom. It is then drawn off into another reservoir or pan, and still other impurities are separated from it.

7. By the time it has reached a fourth reservoir or a fourth pan it is quite pure. It may then evaporate by the heat of the sun or be boiled down. Solar evaporation, as the reservoir system is called, gives a coarse salt. When boiled in pans or kettles, it is stirred and a very fine salt is obtained.

8. Brine from saline wells yields a fine quality of salt. It is brought up from great depths by the use of pumps. In the case of salt springs, pumps are not needed.

9. Below the surface of the earth, then, are found not only salt mines, but gravel beds all saturated with strong brine, little

lakes or reservoirs and springs of salt water. These were once a part of some sea that became *landlocked*, or cut off, and buried in those early ages, when our earth was undergoing great changes.

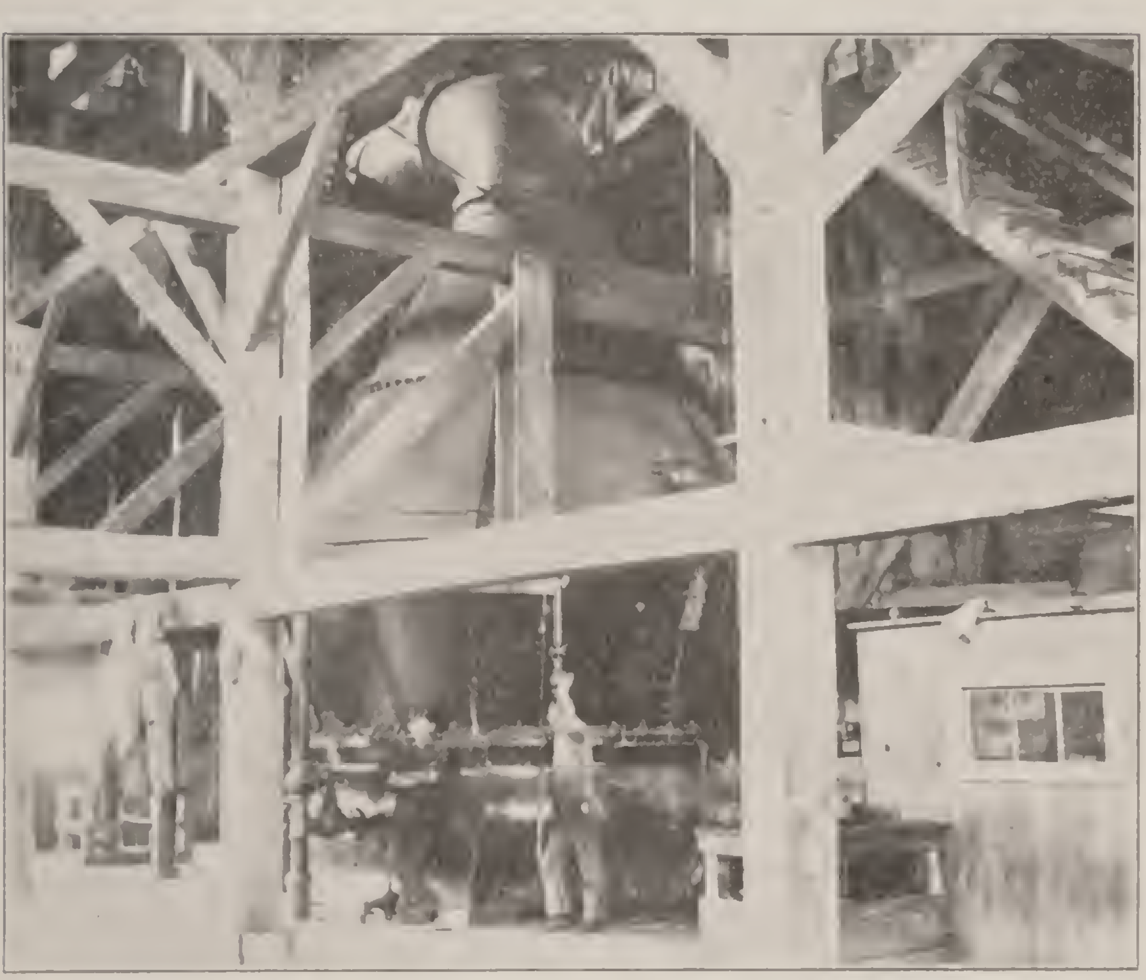
10. Sometimes salt is boiled down in

BAGS OF SALT READY FOR MARKET.

kettles that are put in a long row and heated by one chimney. First one six-sided crystal forms and drops to the bottom, others follow until all the salt has been separated from the "pickle," as the brine is called, and the salt is taken out. It is then put into a place where it may drain.

When dry, it is ready to be shoveled up, put into sacks or smaller bags, and sent to market.

11. Instead of a row of kettles, one great globular vessel, like the one in the picture, is sometimes used. It is called a vacuum pan and is heated by means of steam-pipes. A vacuum pan may be large or small. It may hold thirty barrels of brine or be large enough to hold five hundred barrels.



VACUUM PAN.

12. Vacuum pans have a space above the brine at the top. From this space the air is driven when the vessel is tightly closed. As the weight or pressure of air is taken away, less heat is needed to make the brine boil. As salt is boiled from brine, so sugar is boiled down from syrup in a vacuum pan.

13. Nancy was so delighted with all this story that her mother promised to show her how salt would hide in water whenever it could, and how heat would hurry the water away in vapor and leave the salt behind in pretty white crystals.

14. You may see this too. Put a cup of salt in enough water to make it disappear. Do not be puzzled, just taste and find where the salt is. Boil this brine in a pan over a fire and see for yourself what happens, as Nancy did. Always keep salt away from any dampness, or the crystals will stick together and the salt will not be of good quality.

SUMMARIES.

LESSON 1 (*p.* 1).—THE DEAD BIRD.

The children were sad because their bird was dead. Their mother comforted them. She showed them how to plant seeds. **Seeds look dead ; but there is life in them.**

LESSON 2 (*p.* 4).—LIVING SEEDS.

The life in seeds is plant life. It does not hurt seeds to put them in the ground.

LESSON 3 (*p.* 6).—MAKING BISCUITS.

The children thought it easy to make biscuits. But the dough stuck to their fingers. Their mother told them that **the sticky part of flour is the best part.**

LESSON 4 (*p.* 10).—WHAT THERE IS IN FLOUR.

If flour is tied in a cloth and washed in water, part of it goes into the water, and part stays in the cloth. **The sticky part of flour is gluten ; the powdery part is starch.**

LESSON 5 (*p.* 13).—A TALK ABOUT BREAD SEEDS.

The children learned that the seeds they had planted were wheat seeds. **Each seed is able to grow into a new plant, and each plant bears new seeds.** The seeds of wheat are ground into flour, of which bread is made.

LESSON 6 (*p.* 15).—PLANT FOOD.

Plants need air, water, and sunlight, besides the food they get through their roots from the **soil.** Neither plants nor people can live in the dark.

LESSON 7 (*p.* 17).—GRASS, BIG AND LITTLE.

All kinds of grains are plants of the grass family. They all have thread-like roots, hollow, jointed stems, and narrow leaves (*blades*). **Grains are food-plants.**

LESSON 8 (*p.* 20).—THE JOURNEY.

The King family went to the country by train. On the way they saw rabbits, cows, sheep, and horses.

LESSON 9 (*p.* 23).—THE WHEAT-FIELD.

Spring wheat is sown in April. Winter wheat is sown in September. **Winter wheat gives the larger crop.** People should take care not to tread down the young wheat.

LESSON 10 (*p.* 26).—THE FLOUR-MILL.

Flour-mills are often called **rolling-mills.** Why? The rollers are turned by steam. The grain goes into the mill whole and comes out fine white flour.

LESSON 11 (*p.* 30).—THE BAKERY (PART 1).

Flour, water, salt, and yeast are mixed together to make bread-dough. The yeast, if kept warm, fills the dough with bubbles, making it light and spongy. **The bread is kneaded to mix the bubbles evenly through it.**

LESSON 12 (*p.* 33).—THE BAKERY (PART 2).

In a bakery the fire is built in the oven. But the smoke does not touch the bread. The baker taught his little niece to shape the loaves. **Children can learn something wherever they are.**

LESSON 13 (*p.* 35).—WHAT THE CHICKEN WANTED TO KNOW.

The chicken does not know where he came from, but he knows his mother's voice. He cuddles under her wing to keep warm.

LESSON 14 (*p.* 37).—WHAT THE HEN TOLD HER CHICKS (PART 1).

Hens lay eggs. Sometimes they hide their nests and sit on the eggs till out of each egg comes a little chick. **The egg contains everything the chick needs to live on** until he grows big enough and strong enough to break through his shell and come out into the world.

LESSON 15 (*p.* 40).—WHAT THE HEN TOLD HER CHICKS (PART 2).

Fowls and chickens eat grain and worms. **They swallow stones to grind the grains.** Fowls are useful to us. In what ways?

LESSON 16 (*p.* 42).—WHAT THE LITTLE ONES SAY, AND WHAT THEY MEAN.

The baby pig, the lamb, the puppy, and the kitten all live on milk. **They need nothing else.**

LESSON 17 (*p.* 46).—MILK, AND WHAT IT CHANGES INTO.

Milk is both food and drink. It forms a kind of cheese in the stomach. Milk is good for children.

LESSON 18 (*p.* 49).—A VISIT TO BETTY.

Joe milked the cow before breakfast. He took care to keep the milk clean. He strained it to make sure no specks of dirt were in it. Milking looks easy, but one cannot do it unless he knows how.

LESSON 19 (*p.* 52).—CREAM.

Milk contains little balls of fat. These rise to the top of the milk, forming **cream.** When cream is churned, the fat-balls stick together in a mass. This is **butter.**

LESSON 20 (*p.* 54).—MAKING BUTTER AND COTTAGE CHEESE.

An old-fashioned churn had a dasher that moved up and down. Churns now in use turn over and over. They have no dasher. The buttermilk must be worked out and salt worked in before the butter is ready to sell.

Cottage cheese is made from sour milk. In sour milk the **curd** separates from the rest of the milk. This curd forms the cheese.

LESSON 21 (*p.* 57).—MAKING CHEESE.

Cheese is made in cheese-factories. **Rennet,** a juice from a calf's stomach, is used to separate the curd from the **whey.** The curd must be pressed and cured before it can be sold as cheese.

LESSON 22 (*p.* 60).—HOME AGAIN.

Mary made up a new game. She told the other children how to play farmer, miller, baker, and storekeeper.

LESSON 23 (*p.* 62).—A LITTLE HOUSEKEEPER.

Ella did the housework as well as she knew how. One thing she did not know. She did not know what kind of meat to buy, nor how much meat she ought to get for ten cents.

LESSON 24 (*p.* 65).—ABOUT MEAT.

Beef is the flesh of an ox; mutton, of a sheep; veal, of a calf; and pork, of a hog or pig. Good beef is red and juicy, mutton is a lighter color, and pork and veal lighter still. **Meat from the parts of the animal that move most is the most juicy.** It is also the toughest. Slow cooking makes it tender.

LESSON 25 (*p.* 68).—FISH—KILLING FOR FOOD.

Salt-water and fresh-water fish are both fresh-tasting when caught. Some kinds of fish are salted to make them keep. It is not wrong to kill animals for food, but it is wrong to be unkind to them while they are alive.

LESSON 26 (*p.* 70).—THE POULTRY FARM.

On a poultry farm chickens are not hatched and brooded by hens, but in heated chests. The chests for eggs are **incubators.** Those for chicks are **brooders.** When the chickens are big enough to be eaten, they are killed and plucked, and packed in barrels.

Wild fowl and wild animals are called **game.**

LESSON 27 (*p.* 73).—FIRE AND WATER (PART 1).

By the heat of fire we cook our food and keep ourselves warm. With water we keep ourselves and our houses clean. Some kinds of food need both heat and moisture to cook them. **The heat of the sun may take the place of fire, but nothing can take the place of water.**

LESSON 28 (*p.* 76).—FIRE AND WATER (PART 2).

There are many kinds of living things in the sea and in rivers. Nothing can live in fire. Heat turns ice to water, and water to vapor. On cooling, the vapor becomes water again, and may again be frozen to ice.

LESSON 29 (*p.* 78).—THE BABY SISTER.

Dora's mother and little sister loved her, because she was sweet and helpful. She played with the baby while she dressed her.

LESSON 30 (*p.* 80)—GOING TO MARKET.

These little girls learned to buy food by going to market with Dora's mother.

LESSON 31 (*p.* 82).—A TALK ABOUT POTATOES (PART 1).

Old potatoes sprout in the spring. They are not so good for eating as new ones. If they are planted, **each sprout makes a new potato plant.**

LESSON 32 (*p.* 84).—A TALK ABOUT POTATOES (PART 2).

Potatoes are **tubers,** the thickened part of underground stems. The stems above ground bear leaves and flowers and seeds.

LESSON 33 (*p.* 86).—SUMMER VEGETABLES.

Cabbages, cauliflowers, and **brussels sprouts** belong to the same family. **Asparagus** and **peas** are best in June. **Corn** comes later in the summer.

LESSON 34 (*p.* 88).—PEAS AND BEANS.

Peas and beans belong to the pod family of plants. The pods are seed-cases; the peas and beans are seeds. They are a hearty food.

LESSON 35 (*p.* 92).—AT THE MARKET—WINTER VEGETABLES.

There are many **green vegetables** in the market in June. These should be crisp and fresh. There are also beets, onions, and cabbages. Among winter vegetables are parsnips, turnips, and carrots.

LESSON 36 (*p.* 96).—SOME COMMON FRUITS.

June is the month of strawberries and cherries. People make currant jelly early in July. **Later plums, pears, and peaches are ripe.** Some fruit looks almost too pretty to eat. What a pity it will not keep so!

LESSON 37 (*p.* 98).—FRUIT FROM SOUTHERN LANDS.

Dora and May learned how many kinds of fruit grow in the United States. California grapes may be had the year round. Oranges are not good in summer. Dates and figs are sold dried. Raisins and black currants are dried grapes.

LESSON 38 (*p.* 102).—FAIRY NANCY AND WHAT SHE DID.

Nancy West did not ask her mother what she should do. She learned what to do by watching others; she set the table carefully, so that it would look pretty.

LESSON 39 (*p.* 105).—MAKING TEA.

To have good tea, have the teapot hot and the water boiling. **Do not boil the tea.** Nancy's tea was so good that her father thought her mother had made it.

LESSON 40 (*p.* 107).—MAKING COFFEE.

To have good coffee, **have the coffee-pot hot and the water boiling.** Mix the ground coffee with part of an egg, then add the boiling water. Robert thought he knew all about making coffee, but he found that his sister knew more than he did.

LESSON 41 (*p.* 110).—MAKING COCOA.

To keep cocoa from lumping it is mixed with sugar before the hot water is added. Milk is added last. **Cocoa is better for children than tea or coffee.**

LESSON 42 (*p.* 112).—THE STORY OF SALT (PART 1).

The ocean is a great mineral spring. Sea-water is the original source of salt. Salt is the **only mineral necessary to the life** of the higher order of animals. It is used as a **preservative** of meats, fish, butter, etc. Salt is found in mines, as rock-salt, and in subterranean brines that have become landlocked in some ancient geological period. Salt is used as an emblem of hospitality by Abyssinians and Thibetans. It is mentioned in many ancient writings.

LESSON 43 (*p.* 117).—THE STORY OF SALT (PART 2).

The greatest salt mine is near Cracow. The best quality of salt comes from Cheshire, England. Various methods are employed in its manufacture—**solar evaporation** in warm climates. This method prevails along the Pacific coast. **Brine** may be **boiled in kettles** or in the more recent arrangement of the **vacuum pan.** The salt in the ocean is estimated at five times the mass of the Alps. Plants consume some salt.

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